



## DEPARTMENT OF ENVIRONMENTAL QUALITY

KATHLEEN BABINEAUX BLANCO

GOVERNOR

MIKE D. McDANIEL, Ph.D.

SECRETARY

Certified Mail No.

Agency Interest No. 1136  
Activity No.: PER20060014

Mr. Glenn N. Bucholtz  
General Manager  
Shell Chemical LP  
P. O. Box 500  
Geismar, Louisiana 70734

RE: Part 70 Operating Permit Renewal/Modification, Alcohol Units K-2 thru K-5 and Olefins Feed Preparation Unit, Geismar Plant, Shell Chemical LP, Geismar, Ascension Parish, Louisiana

Dear Mr. Bucholtz:

This is to inform you that the permit renewal/modification for the above referenced facility has been approved under LAC 33:III.501. The permit is both a state preconstruction and Part 70 Operating Permit. The submittal was approved on the basis of the emissions reported and the approval in no way guarantees the design scheme presented will be capable of controlling the emissions as to the types and quantities stated. A new application must be submitted if the reported emissions are exceeded after operations begin. The synopsis, data sheets and conditions are attached herewith.

It will be considered a violation of the permit if all proposed control measures and/or equipment are not installed and properly operated and maintained as specified in the application.

Operation of this facility is hereby authorized under the terms and conditions of this permit. This authorization shall expire at midnight on the \_\_\_\_\_ of \_\_\_\_\_, 2012, unless a timely and complete renewal application has been submitted six months prior to expiration. Terms and conditions of this permit shall remain in effect until such time as the permitting authority takes final action on the application for permit renewal. The permit number and Agency Interest No. cited above should be referenced in future correspondence regarding this facility.

Done this \_\_\_\_\_ day of \_\_\_\_\_, 2007.

Permit No.: 2151-V3

Sincerely,

Chuck Carr Brown, Ph. D.  
Assistant Secretary

SGQ  
cc: EPA Region VI

ENVIRONMENTAL SERVICES  
PO BOX 4313, BATON ROUGE, LA 70821-4313  
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**AIR PERMIT BRIEFING SHEET  
AIR PERMITS DIVISION  
LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY**

**SHELL CHEMICAL LP  
AGENCY INTEREST NO.: 1136  
ALCOHOL UNITS K-2 THRU K-5 AND OLEFINS FEED PREPARATION UNIT  
GEISMAR PLANT  
GEISMAR, ASCENSION PARISH, LOUISIANA**

**I. Background**

Shell Chemical LP owns and operates a chemical manufacturing complex located in Geismar, Louisiana. The facility, Alcohol Units K-2 thru K-5 and Olefins Feed Preparation Unit is currently operating under a Part 70 Operating Permit No. 2151-V2 dated March 21, 2003.

**II. Origin**

A permit application and Emission Inventory Questionnaire dated August 25, 2006 was submitted by Shell Chemical LP requesting a Part 70 operating permit renewal and modification. Other subsequent submittals dated April 30, June 19, and July 19 and 26, 2007 were also received.

**III. Description**

Shell Chemical LP, Geismar Plant, operates four Alcohol Units K-2 thru K-5. Each alcohol units olefin feed is combined with syngas (carbon monoxide, hydrogen and methane) at elevated temperature and pressure to form crude alcohol. This alcohol is then refined through a series of vent separators, degassers, and evaporators; passed through a caustic treater, water wash, and light ends column; and finally flashed and hydrogenated to produce the finished product, blended alcohols.

The Olefin Feed Preparation (OFP) Unit utilizes internal olefin feed streams from the Shell Higher Olefin Process, SHOP-1 thru SHOP-3, Units. The OFP Unit converts the internal olefins into high solubility olefins (HSO) for feed to the Alcohol Units K-4 and K-5.

The facility proposes to modify the current permit as follows:

1. Incorporate the alternate monitoring, recordkeeping, and reporting per NSPS, 40 CFR 60, Subpart RRR in lieu of Subpart NNN for affected equipment, Emission Points NNN-44, NNN-45, NNN-51, NNN-52, and NNN-53. These alternative requirements were approved by EPA on February 7, 2002;
2. Update emissions based on most current emission factors, stack test data, calculation methodology, and comprehensive reassessment (combined all fugitive emissions) of the fugitive emissions based on component count; and
3. Update the Insignificant Activities and General Condition XVII lists to reflect the current operating conditions.

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Permitted emissions from the Alcohol and Olefin Feed Preparation Units in tons per year are as follows:

Pollutant	Before	After	Change
PM <sub>10</sub>	0.70	0.70	-
SO <sub>2</sub>	0.05	0.05	-
NO <sub>X</sub>	9.84	4.02	- 5.82
CO	958.13	981.60	+ 23.47*
VOC	45.80	61.37	+ 15.57*

VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):

Pollutant	Before	After	Change
Methanol	0.23	0.27	+ 0.04
<b>Total</b>	<b>0.23</b>	<b>0.27</b>	<b>+ 0.04</b>

Other VOC (TPY): 61.10

\* The increase in VOC and CO emissions is not due to any modifications but mainly due to the reconciliation, consolidation of all the fugitive emissions (K-2 thru K-5 and OFP), and based on updated monitoring and component count. In the past fugitive emissions were permitted separately for each unit.

#### IV. Type of Review

This permit was reviewed for compliance with 40 CFR 70, the Louisiana Air Quality Regulations, and New Source Performance Standards (NSPS). NESHAP does not apply and New Source Review is not required.

This facility is part of a major source of toxic air pollutants (TAPs) pursuant to LAC 33:III.Chapter 51.

Shell Chemical LP, Geismar Plant as a whole is classified under Synthetic Organic Chemical Manufacturing Industry (SOCMI). Standards are established of these facilities in New Source Performance Standards (NSPS), 40 CFR 60, Subpart NNN; Subpart RRR; Subpart VV; Subpart Kb; National Emission Standards for Hazardous Air Pollutants (NESHAP), Subpart F; Subpart G; Subpart H; and Subpart FF. Some units at the plant may meet the requirements for exemption from the above referenced regulations. The Geismar

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Plant as a whole is a major source of toxic air pollutants and must comply with the State requirement of LAC 33:III.Chapter 51.

The impact of pollutants on air quality is below toxic ambient air standards (AAS) and national ambient air quality standards (NAAQS).

**V. Credible Evidence**

Notwithstanding any other provisions of any applicable rule or regulation or requirement of this permit that state specific methods that may be used to assess compliance with applicable requirements, pursuant to 40 CFR Part 70 and EPA's Credible Evidence Rule, 62 Fed. Reg. 8314 (Feb. 24, 1997), any credible evidence or information relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed shall be considered for purposes of Title V compliance certifications. Furthermore, for purposes of establishing whether or not a person has violated or is in violation of any emissions limitation or standard or permit condition, nothing in this permit shall preclude the use, including the exclusive use, by any person of any such credible evidence or information.

**VI. Public Notice**

A notice requesting public comment on the permit was published in The Advocate, Baton Rouge, Louisiana and The Gonzales Weekly Citizen, Gonzales, Louisiana, on \*\*\*\*, 2007. All comment will be considered before an action is taken on the proposed permit. Copies of the public notice were mailed out to individuals on the mailing list maintained by Office of Environmental Services on \*\*\*\*, 2007. The proposed permit was sent to EPA via e-mail on \*\*\*\*, 2007.

**VII. Effects on Ambient Air**

Dispersion Model(s) Used: None

Pollutant	Time Period	Calculated Maximum Ground Level Concentration	Louisiana Air Quality Standard (NAAQS)
NA			

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**VIII. General Condition XVII Activities**

Activity	Frequency	VOC	PM	SO2	NOx	CO
		TPY	TPY	TPY	TPY	TPY
Reactor Overhead Piping Acid Cleaning	100 hrs	0.004(a)	-	-	-	-
K-2 thru K-5 Evaporator Acid Cleaning	Variable	0.05(b)	-	-	4.45	
K-2 thru K-5 and OFP Units Sampling	100 samples/day	0.04	-	-	-	-
Temporary Large Fuel Fired Equipment	600 hrs	0.38	0.33	0.31	4.65	1.00
Temporary Small Fuel Fired Equipment	600 hrs	0.38	0.33	0.31	4.65	1.00
K-2 thru K-5 and OFP Units Maintenance	Variable	2.01	-	-	-	4.33

- (a) HCl emissions only
- (b) HNO<sub>3</sub> emissions only

**IX. Insignificant Activities**

ID No.:	Description	Citation
-	Caustic Storage Tank	LAC 33:III.501.B.5.B.40

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**X. Applicable Louisiana and Federal Air Quality Requirements**

ID No.:	Description	LAC 33:III. Chapter																	
		5▲	9	11	13	15	2103	2111	2113	2115	2147	2153	2122	22	29*	51*	53	56	59
UNF002	K2345OFP, Alcohol and OFP Units	1	1	1	1	1									1	1	1	1	1
EQT660	07-71, K-2 Vent Stack V-K620													2					
EQT661	08-00, K-2 Drips Collection Tank T-K869												2						
EQT662	08-01, K-2 Separator Pot Vent														1				
EQT663	08-73, K-3 L/E Column Vacuum Discharge J-K1701												2						
EQT664	08-83, K-1 Treater T-K851																		
EQT665	09-73, K-3 Alcohol Flasher Vacuum System J-K1761												2						
EQT666	11-91, K-2 H/E Column Vacuum Discharge J-K774													2					
EQT667	12-91, K-3 Degasser Bottoms Jet Vent J-K1602-4													2					
EQT668	13-91, K-3 Degasser Tops Jet Vent J-K1602-6													2					
EQT669	14-91, K-3 evaporator Jet Vent J-K1601-5													2					
EQT670	15-91, K-4 Degasser Bottoms Jet Vent J-K2602-4													2	1				
EQT671	16-91, K-4 Degasser Tops Jet Vent J-K2602-6													2	1				
EQT672	17-91, K-4 Evaporator Jet Vent J-K2601-5													2	1				
EQT673	22A1-91, Alcohol Storage Tank T-K2917													2					

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EQT674	22A2-91, Olefin Storage Tank T-K2916																		
EQT675	22A3-91, HBS Storage Tank T-K2918																		
EQT676	22A-91, K-2 Crude Alcohol Storage Tank T-K962																		
EQT677	22B-91, K-2 Crude Alcohol Storage Tank T-K963																		
EQT678	22C-91, K-2 Crude Alcohol Storage Tank T-K964																		
EQT679	22D-91, K-2 Crude alcohol Storage Tank T-K965																		
EQT680	22E-91, K-2 Finished Alcohol Storage Tank T-K972																		
EQT681	22F-91, K-2 Finished Alcohol Storage Tank T-K973																		
EQT682	22G-91, K-3 Crude Alcohol Storage Tank T-K1962																		
EQT683	22H-91, K-3 Crude Alcohol Storage Tank T-K1963																		
EQT684	22I-91, K-3 Finished Alcohol Storage Tank T-K1972																		
EQT685	22J-91, K-3 Finished Alcohol Storage Tank T-K1973																		
EQT686	22K-91, K-4 Finished Alcohol Storage Tank T-K2972																		

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EQT687	22L-91, K-4 Finished Alcohol Storage Tank T-K2973														2			
EQT688	22M-91, K-4 Crude Alcohol Storage Tank T-K2962														2			
EQT689	22N-91, K-4 Crude Alcohol Storage Tank T-K2963														2			
EQT690	22O-91, K-4 Crude Alcohol Storage Tank T-K2964														2			
EQT691	22P-91, K-4 Crude Alcohol Storage Tank T-K2965														2			
EQT692	22Q-91, K-4 Crude Alcohol Storage Tank T-K961														2			
EQT693	22R-91, RM-15 Catalyst Storage Tank T-K956														2			
EQT694	22S-91, RM-15 Catalyst Storage Tank T-K932														2			
EQT695	22T-91, RM-15 Catalyst Storage Tank T-K2967														2			
EQT696	22U-91, RM-17 Catalyst Storage Tank T-K957														2			
EQT697	22V-91, RM-17 Catalyst Storage Tank T-K1957														2			
EQT698	22W-91, K-2,3,4 L/E Storage Tank T-K977														2			
EQT699	22X-91, K-2,3,4 L/E Storage Tank T-K978														2			
EQT700	22Y-91, K-2,3,4 L/E Storage Tank T-K979														2			
EQT701	22Z-91, HBS Storage Tank T-K941														2			

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EQT702	23-83, K-2 L/E Column Vacuum Discharge E-K713														2				
EQT703	23-91, K-2 Syngas Vent Stack A-U808A														2				
EQT704	24-83, K-4 L/E Column Vacuum Discharge J-K2701														2	1			
EQT705	25-83, K-4 Alcohol Flasher Vacuum System J-K2761														2	1			
EQT706	36-96, K-4 KOH Mix Vessel V-K2552														2	2			
EQT707	37-96, K-3 KOH Mix Vessel V-K1552														2	2			
EQT708	38-96, K-2 KOH Mix Vessel V-K554														2	2			
EQT709	503-99, K-5 Alcohol Finishing Column Jet Vent E-K5707														2				
EQT710	504-99, K-5 Degasser Jet Vent After Condenser E-K5623														2				
EQT711	505-99, K-5 Degasser Jet Vent Auxiliary After Condenser E-K5626														2				
EQT712	506-99, K-5 Evaporator Jet Vent After Condenser E-K5639														2				
EQT713	508-01, K-5 Separator Pot Vent															2	2109		
EQT714	508-99, K-5 API Separator T-K5964															2	2109		
EQT715	550-99, K5 Crude Alcohol Storage Tank T-5962														2				

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EQT716	551-99, K-5 Crude Alcohol Storage Tank T-K5963																	
EQT717	552-99, Finished Alcohol Rundown Storage Tank T-K5972																	
EQT718	553-99, K-5 Finished Alcohol Rundown Storage Tank T-K5973																	
EQT719	554-99, K-5 KOH Mix Vessel V-K5552																	
EQT720	602-99, Regeneration Gas Dryer Vent V-OU402																	
EQT721	603-99, Regeneration Gas Vent																	
EQT722	620-99, Regeneration Fire Heater F-OU401																	2
EQT723	621-99, Hot Oil Furnace F-OU801																	2
EQT724	650-99, OFPP Rundown Tank T-OU922																	
EQT725	651-99, OFPP Rundown Tank T-OU921																	
EQT726	652-99, OA Storage Tank T-OU902																	
EQT727	68-88, K-3 Hotwell V-K1655																	
EQT728	69-88, K-4 Hotwell V-K2655																	
EQT730	V-K1601, K-3 Oil Storage Vessel																	
EQT731	V-K1618, K-3 Six Reactors & Alcohol Reactor Vent																1	
EQT732	V-K1619, K-3 Alcohol Reactor Flash Separator																1	

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EQT733	V-K1620, K-3 ER Drum														1			
EQT734	V-K1622, K-3 LP Syn Gas Knock Out Pot														1			
EQT735	V-K1654, K-3 Recycle Catalyst Surge Vessel														1			
EQT736	V-K1763, K-3 Hydrogenator														1			
EQT737	V-K1764, Hydrogenator Gas Separator														1			
EQT738	V-K2601, K-4 Oil Storage Vessel													2				
EQT739	V-K2618, K-4 Six Reactors & Alcohol Reactor Vent													2	1			
EQT740	V-K2619, K-4 Alcohol Reactor Flash Separator													2	1			
EQT741	V-K2620, K-4 ER Drum													1				
EQT742	V-K2654, K-4 Recycle Catalyst Surge Vessel													1				
EQT743	V-K2763, K-4 Hydrogenator													2	1			
EQT744	V-K2764, K-4 Hydrogenator Gas Separator													2	1			
EQT745	V-K618, K-2 Seven Reactors & Alcohol Reactor Vent													2				
EQT746	V-K619, K-2 Reactor Flash Separator													2				
EQT747	V-K764, K-2 Hydrogenator Gas Separator													2				
EQT748	V-K601, K-2 Oil Storage Vessel													2				
EQT749	V-K654, K-2, Recycle Catalyst Surge Vessel													2				

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EQT750	V-K656, K-2 Hotwell													2	2				
EQT751	V-K763, K-2 Hydrogenator													2					
EQT752	A-K5601, K-5 Analyzer													2					
EQT753	NNN-46, K-5 Alcohol Reactor Flash Separator V-K5619													2					
EQT754	NNN-47, K-5 Hydrogenator Gas Separator													2					
EQT755	PCVSFL, Pressure Control Vent													2					
EQT756	RRR-09, K-5 Five Reactors & Alcohol Reactor Vent V-K5618													2					
EQT757	RRR-10, K-5 Hydrogenator V-K5601													2					
EQT758	V-K5601, K-5 Oil Storage Vessel													2					
EQT759	V-K5620, K-5 ER Drum													1					
EQT760	V-K5634, K-5 Recycle Catalyst Surge Vessel													1					
EQT761	V-K5655, K-5 Hotwell													2					
EQT762	NNN-44, L/E Column Overhead Accumulation V-OU202													2					
EQT763	NNN-45, Reactor Product Flash Vessel OU201 and L/E Flash Vessel OU213													2					
EQT764	RRR-12, Two Reactors V-OU121 and OU122													2					
EQT765	V-OU301, Stripping Knock Out Vessel													1					

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EQT766	V-OUS01, OFP ER Drum								1									
EQT767	V-OU802, Hot Oil Drains Vessel								2									
FUG018	01-06, K-Units Fugitive Emissions							1						1		1		
<b>KEY TO MATRIX</b>																		

- 1 -The regulations have applicable requirements which apply to this particular emission source.  
 -The emission source may have an exemption from control stated in the regulation. The emission source may not have to be controlled but may have monitoring, recordkeeping, or reporting requirements.
- 2 -The regulations have applicable requirements which apply to this particular emission source but the source is currently exempt from these requirements due to meeting a specific criteria, such as it has not been constructed, modified or reconstructed since the regulations have been in place. If the specific criteria changes the source will have to comply at a future date.
- 3 -The regulations apply to this general type of emission source (i.e. vents, furnaces, towers, and fugitives) but do not apply to this particular emission source.  
 Blank - The regulations clearly do not apply to this type of emission source.

\* The regulations indicated above are State Only regulations.

▲ All LAC 33:III.Chapter 5 citations are federally enforceable including LAC 33:III.501.C.6 citations, except when the requirement found in the "Specific Requirements" report specifically states that the regulation is State Only.

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ID No.:	Description	40 CFR 60 NSPS						40 CFR 61						40 CFR 63 NESHAP						40 CFR							
		A	K	Ka	Kb	VV	RRR	NNN	A	J	M	FF	A	F	G	H	PPP	52	64	68	82						
UNF002	K2345OFP, Alcohol and OFFP Units	1							1													1	1				
EQT660	07-71, K-2 Vent Stack V-K620									2																	
EQT661	08-00, K-2 Drips Collection Tank T-K869							2																			
EQT662	08-01, K-2 Separator Pot Vent																										
EQT663	08-73, K-3 L/E Column Vacuum Discharge J-K1701									2																	
EQT664	08-83, K-1 Treater T-K851																										
EQT665	09-73, K-3 Alcohol Flasher Vacuum System J-K1761										2																
EQT666	11.91, K-2 H/E Column Vacuum Discharge J-K774											2															
EQT667	12-91, K-3 Degasser Bottoms Jet Vent J-K1602-4											2															
EQT668	13-91, K-3 Degasser Tops Jet Vent J-K1602-6											2															
EQT669	14-91, K-3 evaporator Jet Vent J-K1601-5											2															
EQT670	15-91, K-4 Degasser Bottoms Jet Vent J-K2602-4											2															
EQT671	16-91, K-4 Degasser Tops Jet Vent J-K2602-6											2															

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**X. Applicable Louisiana and Federal Air Quality Requirements**

ID No.:	Description	40 CFR 60 NSPS					40 CFR 61					40 CFR 63 NESHAP					40 CFR				
		A	K	Ka	Kb	VV	RRR	NNN	A	J	M	FF	A	F	G	H	PPP	52	64	68	82
EQT672	17-91, K-4 Evaporator Jet Vent J-K2601-5																				
EQT673	22A1-91, Alcohol Storage Tank T-K2917																				
EQT674	22A2-91, Olefin Storage Tank T-K2916																				
EQT675	22A3-91, HBS Storage Tank T-K2918																				
EQT676	22A-91, K-2 Crude Alcohol Storage Tank T-K962																				
EQT677	22B-91, K-2 Crude Alcohol Storage Tank T-K963																				
EQT678	22C-91, K-2 Crude Alcohol Storage Tank T-K964																				
EQT679	22D-91, K-2 Crude alcohol Storage Tank T-K965																				
EQT680	22E-91, K-2 Finished Alcohol Storage Tank T-K972																				
EQT681	22F-91, K-2 Finished Alcohol Storage Tank T-K973																				
EQT682	22G-91, K-3 Crude Alcohol Storage Tank T-K1962																				
EQT683	22H-91, K-3 Crude Alcohol Storage Tank T-K1963																				
EQT684	22I-91, K-3 Finished Alcohol Storage Tank T-K1972																				

## LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY

**SHELL CHEMICAL LP**  
**AGENCY INTEREST NO.: 1136**  
**ALCOHOL UNITS K-2 THRU K-5 AND OLEFINS FEED PREPARATION UNIT**  
**GEISMAR PLANT**  
**GEISMAR, ASCENSION PARISH, LOUISIANA**

**X. Applicable Louisiana and Federal Air Quality Requirements**

ID No.:	Description	40 CFR 60 NSPS					40 CFR 61					40 CFR 63 NESHAP					40 CFR				
		A	K	Ka	Kb	VV	RRR	NNN	A	J	M	FF	A	F	G	H	PPP	52	64	68	82
EQT685	22J-91, K-3 Finished Alcohol Storage Tank T-K1973																				
EQT686	22K-91, K-4 Finished Alcohol Storage Tank T-K2972																				
EQT687	22L-91, K-4 Finished Alcohol Storage Tank T-K2973																				
EQT688	22M-91, K-4 Crude Alcohol Storage Tank T-K2962																				
EQT689	22N-91, K-4 Crude Alcohol Storage Tank T-K2963																				
EQT690	22O-91, K-4 Crude Alcohol Storage Tank T-K2964																				
EQT691	22P-91, K-4 Crude Alcohol Storage Tank T-K2965																				
EQT692	22Q-91, K-4 Crude Alcohol Storage Tank T-K961																				
EQT693	22R-91, RM-15 Catalyst Storage Tank T-K956																				
EQT694	22S-91, RM-15 Catalyst Storage Tank T-K932																				
EQT695	22T-91, RM-15 Catalyst Storage Tank T-K2967																				
EQT696	22U-91, RM-17 Catalyst Storage Tank T-K957																				

## LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY

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**X. Applicable Louisiana and Federal Air Quality Requirements**

ID No.:	Description	40 CFR 60 NSPS						40 CFR 61						40 CFR 63 NESHAP						40 CFR					
		A	K	Ka	Kb	VV	RRR	NNN	A	J	M	FF	A	F	G	H	PPP	S2	64	68	82				
EQT697	22V-91, RM-17 Catalyst Storage Tank T-K1957								2																
EQT698	22W-91, K-2,3,4 L/E Storage Tank T-K977								2																
EQT699	22X-91, K-2,3,4 L/E Storage Tank T-K978								2																
EQT700	22Y-91, K-2,3,4 L/E Storage Tank T-K979								2																
EQT701	22Z-91, HBS Storage Tank T-K941								1																
EQT702	23-83, K-2 L/E Column Vacuum Discharge E-K713												2												
EQT703	23-91, K-2 Syngas Vent Stack A-U808A												2												
EQT704	24-83, K-4 L/E Column Vacuum Discharge J-K2701												2												
EQT705	25-83, K-4 Alcohol Flasher Vacuum System J-K2761												2												
EQT706	36-96, K-4 KOH Mix Vessel V-K2552												2												
EQT707	37-96, K-3 KOH Mix Vessel V-K1552												2												
EQT708	38-96, K-2 KOH Mix Vessel V-K554												2												
EQT709	503-99, K-5 Alcohol Finishing Column Jet Vent E-K5707												1												

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SHELL CHEMICAL LP

AGENCY INTEREST NO.: 1136

ALCOHOL UNITS K-2 THRU K-5 AND OLEFINS FEED PREPARATION UNIT

GEISMAR PLANT

GEISMAR, ASCENSION PARISH, LOUISIANA

## X. Applicable Louisiana and Federal Air Quality Requirements

ID No.:	Description	40 CFR 60 NSPS				40 CFR 61				40 CFR 63 NESHPAP				40 CFR						
		A	K	Ka	Kb	VV	RRR	NNN	A	J	M	FF	A	F	G	H	PPP	52	64	68
EQT710	504-99, K-5 Degasser Jet Vent After Condenser E-K5623																			
EQT711	505-99, K-5 Degasser Jet Vent Auxiliary After Condenser E-K5626																			
EQT712	506-99, K-5 Evaporator Jet Vent After Condenser E-K5639																			
EQT713	508-01, K-5 Separator Pot Vent																			
EQT714	508-99, K-5 API Separator T-K5964																			
EQT715	550-99, K5 Crude Alcohol Storage Tank T-5962																			
EQT716	551-99, K-5 Crude Alcohol Storage Tank T-K5963																			
EQT717	552-99, Finished Alcohol Rundown Storage Tank T-K5972																			
EQT718	553-99, K-5 Finished Alcohol Rundown Storage Tank T-K5973																			
EQT719	554-99, K-5 KOH Mix Vessel V-K5552																			
EQT720	602-99, Regeneration Gas Dryer Vent V-OU402																			
EQT721	603-99, Regeneration Gas Vent																			
EQT722	620-99, Regeneration Fire Heater F-OU401																1			

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**X. Applicable Louisiana and Federal Air Quality Requirements**

ID No.:	Description	40 CFR 60 NSPS						40 CFR 61						40 CFR 63 NESHAP						40 CFR					
		A	K	K <sub>a</sub>	K <sub>b</sub>	VV	RRR	NNN	A	J	M	FF	A	F	G	H	PPP	S2	64	68	82				
EQT723	621-99, Hot Oil Furnace F-OU801																								
EQT724	650-99, OFP Rundown Tank T-OU922																								
EQT725	651-99, OFP Rundown Tank T-OU921																								
EQT726	652-99, OA Storage Tank T-OU902																								
EQT727	68-88, K-3 Hotwell V-K1655																								
EQT728	69-88, K-4 Hotwell V-K2655																								
EQT730	V-K1601, K-3 Oil Storage Vessel																								
EQT731	V-K1618, K-3 Six Reactors & Alcohol Reactor Vent																								
EQT732	V-K1619, K-3 Alcohol Reactor Flash Separator																								
EQT733	V-K1620, K-3 ER Drum																								
EQT734	V-K1622, K-3 LP Syn Gas Knock Out Po																								
EQT735	V-K1654, K-3 Recycle Catalyst Surge Vessel																								
EQT736	V-K1763, K-3 Hydrogenator																								
EQT737	V-K1764, Hydrogenator Gas Separator																								
EQT738	V-K2601, K-4 Oil Storage Vessel																								

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**X. Applicable Louisiana and Federal Air Quality Requirements**

ID No.:	Description	40 CFR 60 NSPS						40 CFR 61						40 CFR 63 NESHAP						40 CFR					
		A	K	Ka	Kb	VV	RRR	NNN	A	J	M	FF	A	F	G	H	PPP	52	64	68	82				
EQT739	V-K2618, K-4 Six Reactors & Alcohol Reactor Vent								2																
EQT740	V-K2619, K-4 Alcohol Reactor Flash Separator									2															
EQT741	V-K2620, K-4 ER Drum																								
EQT742	V-K2654, K-4 Recycle Catalyst Surge Vessel																								
EQT743	V-K2763, K-4 Hydrogenator								2																
EQT744	V-K2764, K-4 Hydrogenator Gas Separator									2															
EQT745	V-K618, K-2 Seven Reactors & Alcohol Reactor Vent										2														
EQT746	V-K619, K-2 Reactor Flash Separator																								
EQT747	V-K764, K-2 Hydrogenator Gas Separator																								
EQT748	V-K601, K-2 Oil Storage Vessel																								
EQT749	V-K654, K-2, Recycle Catalyst Surge Vessel																								
EQT750	V-K656, K-2 Hotwell																								
EQT751	V-K763, K-2 Hydrogenator																								
EQT752	A-K5601, K-5 Analyzer																								

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**X. Applicable Louisiana and Federal Air Quality Requirements**

ID No.:	Description	40 CFR 60 NSPS				40 CFR 61				40 CFR 63 NESHPAP				40 CFR							
		A	K	Ka	Kb	VV	RRR	NNN	A	J	M	FF	A	F	G	H	PPP	S2	64	68	82
EQT753	NNN-46, K-5 Alcohol Reactor Flash Separator																				
EQT754	NNN-47, K-5 Hydrogenator Gas Separator																				
EQT755	PCV SFL, Pressure Control Vent																				
EQT756	RRR-09, K-5 Five Reactors & Alcohol Reactor Vent V-K5618																				
EQT757	RRR-10, K-5 Hydrogenator V-K5601																				
EQT758	V-K5601, K-5 Oil Storage Vessel																				
EQT759	V-K5620, K-5 ER Drum																				
EQT760	V-K5654, K-5 Recycle Catalyst Surge Vessel																				
EQT761	V-K5655, K-5 Hotwell																				
EQT762	NNN-44, L/E Column Overhead Accumulation V-OU202																				
EQT763	NNN-45, Reactor Product Flash Vessel OU201 and L/E Flash Vessel OU213																				
EQT764	RRR-12, Two Reactors V-OU121 and OU122																				
EQT765	V-OU301, Stripping Knock Out Vessel																				

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## X. Applicable Louisiana and Federal Air Quality Requirements

## KEY TO MATRIX

- 1 - The regulations have applicable requirements which apply to this particular emission source.
    - The emission source may have an exemption from control stated in the regulation. The emission source may not have to be controlled but may have monitoring, recordkeeping, or reporting requirements.
  - 2 - The regulations have applicable requirements which apply to this particular emission source but the source is currently exempt from these requirements due to meeting a specific criteria, such as it has not been constructed, modified or reconstructed since the regulations have been in place. If the specific criteria changes the source will have to comply at a future date.
  - 3 - The regulations apply to this general type of emission source (i.e. vents furnaces towers and fixtures) but do not apply to this particular source.

[Blank – The regulations clearly do not apply to this type of emission source.]

## LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY

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<b>XI. Explanation for Exemption Status or Non-Applicability of a Source</b>		
ID No:	Requirement	Notes
UNF002 K2345OFP Alcohol & OFP Units	40 CFR 64, Compliance Assurance Monitoring (CAM), 40 CFR 64(a)(1), (a)(2), (a)(3) and (b)(1)(i)	Not applicable or exempt: No control device and/or controlled/uncontrolled emissions less than the major source threshold and/or not subject to any limitation and/or regulation promulgated after November 15, 1990
EQT660, 663, 665 thru 669, 702, and 747 Vent Systems	Waste Gas Disposal, LAC 33.III.2115	Exempt: Vent gas stream has a combined weight of VOCs less than or equal to 100 lbs in any continuous 24-hour period [LAC 33.III.2115. H.1.c]
EQT747 Vent	SOCMI Distillation Operations, NSPS, Subpart NNN, 40 CFR 60.660	Does not apply: Does not meet the definition of a SOCMI facility [40 CFR 60.667]
EQT660, 663, 665 thru 672, 702, 737, and 746 Vent Systems	SOCMI Distillation Operations, NSPS, Subpart NNN, 40 CFR 60.660	Does not apply: Not constructed, modified, or reconstructed after December 30, 1983 [40 CFR 60.660(b)]
EQT663, 665 thru 669 EQT664 K-1 Treater	SOCMI Distillation Operations, Oil/Water Separation, LAC 33.III.2109	Exempt: Separates materials having a true vapor pressure of VOCs less than 0.5 psia [LAC 33.III.2109.B.3]
EQT661 and 676 thru 700 Storage Tank	Storage of Volatile Organic Compounds, LAC 33.III.2103	Does not apply: The true vapor pressure of stored material is less than 1.5 psia. [LAC 33.III.2103.A]
	VOL Storage Vessels - NSPS, Subpart Kb, 40 CFR 60.110b	Does not apply. Tanks construction prior to July 23, 1984 and was not modified or reconstructed since. [40 CFR 60.110b]

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<b>XI. Explanation for Exemption Status or Non-Applicability of a Source</b>		
ID No:	Requirement	Notes
EQT703 Vent Stack	Waste Gas Disposal, LAC 33:III.2115	Does not apply: The waste gas stream does not contain VOCs
EQT670 thru 672, 704 thru 706, 740, and 744 Vent Systems	Waste Gas Disposal, LAC 33:III.2115	Does not apply: The source complies with all the applicable requirements of LAC 33:III.2147
	SOCMI Distillation Operations, NSPS, Subpart NNN, 40 CFR 60.660	Does not apply: Distillation unit construction prior to December 30, 1983 and was not modified or reconstructed since.
EQT706 Mixing Vessel	Limiting VOC Emission from SOCMI Reactor Processes and Distillation Operations, LAC 33:III.2147	Exempt: Batch process [LAC 33:III.2147.A.2.b]
EQT706, 731, 736, 739, and 743	SOCMI Reactor Processes, NSPS, Subpart RRR, 40 CFR 60.700	Does not apply: Reactor Processes construction prior to June 29, 1990 and was not modified or reconstructed since.
EQT707, 708, 745, and 751	Waste Gas Disposal, LAC 33:III.2115	Exempt: Vent gas stream has a combined weight of VOCs less than or equal to 100 lbs in any continuous 24-hour period [LAC 33:III.2115. H.1.c]
EQT706 thru 708, and 719	SOCMI Reactor Processes, NSPS, Subpart RRR, 40 CFR 60.700	Does not apply: Reactor Processes construction prior to June 29, 1990 and was not modified or reconstructed since.
	Emission Standards for Particulate Matter, LAC 33:III.Chapter 13	Exempt: Emissions already less than that allowed by the process weight rate limitation (LAC 33:III.1321, Table 3) [LAC 33:III.1311.E]

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**XI. Explanation for Exemption Status or Non-Applicability of a Source**

ID No:	Requirement	Notes
EQT730, 738, 752, and 767	Waste Gas Disposal, LAC 33:III.2115	Exempt: Waste gas stream has a concentration of VOCs less than 0.44 psia true partial pressure [LAC 33:III.2115. H.1.d]
EQT731 and 736	SOCMI Reactor Processes, NSPS, Subpart RRR, 40 CFR 60.700	Does not apply: Reactor Processes construction prior to June 29, 1990 and was not modified or reconstructed since.
EQT732 and 737	SOCMI Distillation Operations, NSPS, Subpart NNN, 40 CFR 60.660	Does not apply: Distillation unit construction prior to December 30, 1983 and was not modified or reconstructed since.
EQT739 and 743	Waste Gas Disposal, LAC 33:III.2115	Does not apply: The source complies with all the applicable requirements of LAC 33:III.2147
	SOCMI Reactor Processes, NSPS, Subpart RRR, 40 CFR 60.700	Does not apply: Reactor Processes construction prior to June 29, 1990 and was not modified or reconstructed since.
EQT727, 728, and 750	Waste Gas Disposal, LAC 33:III.2115	Does not apply: The source complies with all the applicable requirements of LAC 33:III.2109
	Limiting VOC Emissions from Industrial Wastewater, LAC 33:III.2153	Does not apply: Does meet the definition of "Affected VOC Wastewater" [LAC 33:III.2153.A]
EQT673 thru 675, 715 thru 718, and 724 thru 726	Storage of Volatile Organic Compounds, LAC 33:III.2103	Does not apply: The true vapor pressure of stored material is less than 1.5 psia. [LAC 33:III.2103.A]
	VOL Storage Vessels - NSPS, Subpart Kb, 40 CFR 60.110b	Does not apply. The true vapor pressure of stored material is less than 0.5 psia. [40 CFR 60.110b]
EQT713 and 714	Oil/Water Separation, LAC 33:III.2109	Exempt: Separates materials having a true vapor pressure of VOCs less than 0.5 psia. [LAC 33:III.2109.B.3]

## 40 CFR PART 70 GENERAL CONDITIONS

- A. The term of this permit shall be five (5) years from date of issuance. An application for a renewal of this 40 CFR Part 70 permit shall be submitted to the administrative authority no later than six months prior to the permit expiration date. Should a complete permit application not be submitted six months prior to the permit expiration date, a facility's right to operate is terminated pursuant to 40 CFR Section 70.7(c)(ii). Operation may continue under the conditions of this permit during the period of the review of the application for renewal. [LAC 33:III.507.E.1, E.3, E.4, reference 40 CFR 70.6(a)(2)]
- B. The conditions of this permit are severable; and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby. [Reference 40 CFR 70.6(a)(5)]
- C. Permittee shall comply with all conditions of the 40 CFR Part 70 permit. Any permit noncompliance constitutes a violation of the Clean Air Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. [LAC 33:III.507.B.2, reference 40 CFR 70.6(a)(6)(i) & (iii)]
- D. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. [Reference 40 CFR 70.6(a)(6)(ii)]
- E. This permit does not convey any property rights of any sort, or an exclusive privilege. [Reference 40 CFR 70.6(a)(6)(iv)]
- F. The permittee shall furnish to the permitting authority, within a reasonable time, any information that the permitting authority may request in writing to determine whether cause exists for modifying, revoking, and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the permitting authority copies of records required to be kept by the permit or, for information claimed to be confidential, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality. A claim of confidentiality does not relieve the permittee of the requirement to provide the information. [LAC 33:III.507.B.2, 517.F, reference 40 CFR 70.6(a)(6)(v)]
- G. Permittee shall pay fees in accordance with LAC 33:III.Chapter 2 and 40 CFR Section 70.6(a)(7). [LAC 33:III.501.C.2, reference 40 CFR 70.6(a)(7)]
- H. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the permitting authority or authorized representative to perform the following:
  1. enter upon the permittee's premises where a 40 CFR Part 70 source is located or emission-related activity is conducted, or where records must be kept under the conditions of the permit [LAC 33:III.507.H.2, reference 40 CFR 70.6(c)(2)(i)];
  2. have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit [LAC 33:III.507.H.2, reference 40 CFR 70.6(c)(2)(ii)];

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**XI. Explanation for Exemption Status or Non-Applicability of a Source**

ID No:	Requirement	Notes
EQT719	Waste Gas Disposal, LAC 33:III.2115	Exempt: Vent gas stream has a combined weight of VOCs less than or equal to 100 lbs in any continuous 24-hour period [LAC 33:III.2115. H.1.c]
	SOCMI Reactor Processes, NSPS, Subpart RRR, 40 CFR 60.700	Exempt: The source is used in batch operations 40 CFR 60.700(c)(1)
EQT709 thru 712, 753, 754, 762, and 763	Waste Gas Disposal, LAC 33:III.2115	Does not apply: The source complies with all the applicable requirements of NSPS, Subpart NNN
EQT701	Storage of Volatile Organic Compounds, LAC 33:III.2103	Does not apply: The true vapor pressure of stored material is less than 1.5 psia. [LAC 33:III.2103.A]
EQT720, 721, 748, 749, and 755	Waste Gas Disposal, LAC 33:III.2115	Exempt: Vent gas stream has a combined weight of VOCs less than or equal to 100 lbs in any continuous 24-hour period [LAC 33:III.2115. H.1.c]
EQT757 and 764	Waste Gas Disposal, LAC 33:III.2115	Does not apply: The source complies with all the applicable requirements of NSPS, Subpart RRR
FUG018	Fugitive Emissions Control of Ozone Nonattainment Areas and Specific Parishes, LAC 33:III.2122	Does not apply to K-2, 3, and 5. Not SOCMI units
	Standards of Performance for Equipment Leaks of VOC in the SOCMI, NSPS, Subpart VV, 40 CFR 60.480	Does not apply to K-2, 3, and 5; Not SOCMI Unit and constructed prior to January 5, 1981
	Fugitive Emissions Control of Ozone Nonattainment Areas and Specific Parishes, LAC 33:III.2122	Exempt (OFP): As approved by LDEQ due to the overlap applicability of NSPS, Subpart VV, 40 CFR 60.480 [LAC 33:III.2122.A.6.a]

The above table provides explanation for both the exemption status or non-applicability of a source cited by 2 or 3 in the matrix presented in Section VII of this permit.

## 40 CFR PART 70 GENERAL CONDITIONS

3. inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit [LAC 33:III.507.H.2, reference 40 CFR 70.6(c)(2)(iii)]; and
  4. as authorized by the Clean Air Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements. [LAC 33:III.507.H.2, reference 40 CFR 70.6(c)(2)(iv)]
- I. All required monitoring data and supporting information shall be kept available for inspection at the facility or alternate location approved by the agency for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application. Supporting information includes calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and all reports required by the permit. [Reference 40 CFR 70.6(a)(3)(ii)(B)]
- J. Records of required monitoring shall include the following:
1. the date, place as defined in the permit, and time of sampling or measurements;
  2. the date(s) analyses were performed;
  3. the company or entity that performed the analyses;
  4. the analytical techniques or methods used;
  5. the results of such analyses; and
  6. the operating conditions as existing at the time of sampling or measurement.
- [Reference 40 CFR 70.6(a)(3)(ii)(A)]
- K. Permittee shall submit at least semiannually, reports of any required monitoring, clearly identifying all instances of deviations from permitted monitoring requirements, certified by a responsible company official. For previously reported deviations, in lieu of attaching the individual deviation reports, the semiannual report may clearly reference the communication(s)/correspondence(s) constituting the prior report, including the date the prior report was submitted. The semiannual reports shall be submitted to the Office of Environmental Compliance, Enforcement Division by March 31 for the preceding period encompassing July through December and September 30 for the preceding period encompassing January through June. Any quarterly deviation report required to be submitted by March 31 or September 30 in accordance with Part 70 General Condition R may be consolidated with the semi-annual reports required by this general condition as long as the report clearly indicates this and all required information is included and clearly delineated in the consolidated report. [LAC 33:III.507.H, reference 40 CFR 70.6(a)(3)(iii)(A)]
- L. The permittee shall submit at least semiannual reports on the status of compliance pursuant to 40 CFR Section 70.5 (c) (8) and a progress report on any applicable schedule of compliance pursuant to 40 CFR Section 70.6 (c) (4). [LAC 33:III.507.H.1, reference 40 CFR 70.6(c)(4)]
- M. Compliance certifications per LAC 33:III.507.H.5 shall be submitted to the Administrator as well as the permitting authority. For previously reported compliance deviations, in lieu of attaching the individual deviation reports, the annual report may clearly reference the communication(s)/correspondence(s) constituting the prior report, including the date the prior report was submitted. The compliance certifications shall be submitted to the Office of

## **40 CFR PART 70 GENERAL CONDITIONS**

Environmental Compliance, Enforcement Division by March 31 for the preceding calendar year. [LAC 33:III.507.H.5, reference 40 CFR 70.6(c)(5)(iv)]

- N. If the permittee seeks to reserve a claim of an affirmative defense as provided in LAC 33:III.507.J.2, the permittee shall, in addition to any emergency or upset provisions in any applicable regulation, notify the permitting authority within 2 working days of the time when emission limitations were exceeded due to the occurrence of an upset. In the event of an upset, as defined under LAC 33:III.507.J, which results in excess emissions, the permittee shall demonstrate through properly signed, contemporaneous operating logs, or other relevant evidence that: 1) an emergency occurred and the cause was identified; 2) the permitted facility was being operated properly at the time; and 3) during the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standard or requirement of the permit. [LAC 33:III.507.J.2, reference 40 CFR 70.6(g)(3)(iv) & (i-iii)]
- O. Permittee shall maintain emissions at a level less than or equal to that provided for under the allowances that the 40 CFR Part 70 source lawfully holds under Title IV of the Clean Air Act or the regulations promulgated thereunder. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid rain program, provided that such increases do not require a permit revision under any other applicable requirement. No limit shall be placed on the number of allowances held by the source. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement. Any such allowance shall be accounted for according to the procedures established in regulations promulgated under Title IV of the Clean Air Act. [Reference 40 CFR 70.6(a)(4)]
- P. Any permit issued pursuant to 40 CFR Part 70 may be subject to reopening prior to the expiration of the permit for any of the conditions specified in 40 CFR Section 70.7(f) or LAC 33:III.529. [LAC 33:III.529.A-B, reference 40 CFR 70.7(f)]
- Q. Permittee may request an administrative amendment to the permit to incorporate test results from compliance testing if the following criteria are met:
  1. the changes are a result of tests performed upon start-up of newly constructed, installed, or modified equipment or operations;
  2. increases in permitted emissions will not exceed five tons per year for any regulated pollutant;
  3. increases in permitted emissions of Louisiana toxic air pollutants or of federal hazardous air pollutants would not constitute a modification under LAC 33:III. Chapter 51 or under Section 112 (g) of the Clean Air Act;
  4. changes in emissions would not require new source review for prevention of significant deterioration or nonattainment and would not trigger the applicability of any federally applicable requirement;
  5. changes in emissions would not qualify as a significant modification; and
  6. the request is submitted no later than 12 months after commencing operation. [LAC 33:III.523.A, reference 40 CFR 70.7(d)]

## 40 CFR PART 70 GENERAL CONDITIONS

- R. Permittee shall submit prompt reports of all permit deviations as specified below to the Office of Environmental Compliance, Enforcement Division. All such reports shall be certified by a responsible official in accordance with 40 CFR 70.5(d).
1. A written report shall be submitted within 7 days of any emission in excess of permit requirements by an amount greater than the Reportable Quantity established for that pollutant in LAC 33.I.Chapter 39.
  2. A written report shall be submitted within 7 days of the initial occurrence of any emission in excess of permit requirements, regardless of the amount, where such emission occurs over a period of seven days or longer.
  3. A written report shall be submitted quarterly to address all permit deviations not included in paragraphs 1 or 2 above. Unless required by an applicable reporting requirement, a written report is not required during periods in which there is no deviation. The quarterly deviation reports submitted on March 31 and September 30 may be consolidated with the semi-annual reports required by Part 70 General Condition K as long as the report clearly indicates this and all required information is included and clearly delineated in the consolidated report. For previously reported permit deviations, in lieu of attaching the individual deviation reports, the quarterly report may clearly reference the communication(s)/correspondence(s) constituting the prior report, including the date the prior report was submitted. The schedule for submittal of quarterly reports shall be no later than the dates specified below for any permit deviations occurring during the corresponding specified calendar quarter:
    - a. Report by June 30 to cover January through March
    - b. Report by September 30 to cover April through June
    - c. Report by December 31 to cover July through September
    - d. Report by March 31 to cover October through December
  4. Any written report submitted in advance of the timeframes specified above, in accordance with an applicable regulation, may serve to meet the reporting requirements of this condition provided such reports are certified in accordance with 40 CFR 70.5(d) and contain all information relevant to the permit deviation. Reporting under this condition does not relieve the permittee from the reporting requirements of any applicable regulation, including LAC 33.I.Chapter 39, LAC 33.III.Chapter 9, and LAC 33.III.5107. [Reference 40 CFR 70.6(a)(3)(iii)(B)]
- S. Permittee shall continue to comply with applicable requirements on a timely basis, and will meet on a timely basis applicable requirements that become effective during the permit term. [Reference 40 CFR 70.5(c)(8)(iii)]
- T. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
1. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156;

## 40 CFR PART 70 GENERAL CONDITIONS

2. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158;
  3. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161;
  4. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with recordkeeping requirements pursuant to 40 CFR 82.166. ("MVAC-like appliance" as defined at 40 CFR 82.152);
  5. Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to 40 CFR 82.156; and
  6. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166. [Reference 40 CFR 82, Subpart F]
- U. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.
- The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant. [Reference 40 CFR 82, Subpart B]
- V. Data availability for continuous monitoring or monitoring to collect data at specific intervals: Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including calibration checks and required zero and span adjustments), the permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the emissions unit is operating. For purposes of reporting monitoring deviations under Part 70 General Conditions K and R, and unless otherwise provided for in the Specific Requirements (or Table 3) of this permit, the minimum degree of data availability shall be at least 90% (based on a monthly average) of the operating time of the emissions unit or activity being monitored. This condition does not apply to Leak Detection and Repair (LDAR) programs for fugitive emissions (e.g., 40 CFR 60 Subpart VV, 40 CFR 63 Subpart H).

- I. This permit is issued on the basis of the emissions reported in the application for approval of emissions and in no way guarantees that the design scheme presented will be capable of controlling the emissions to the type and quantities stated. Failure to install, properly operate and/or maintain all proposed control measures and/or equipment as specified in the application and supplemental information shall be considered a violation of the permit and LAC 33:III.501. If the emissions are determined to be greater than those allowed by the permit (e.g. during the shakedown period for new or modified equipment) or if proposed control measures and/or equipment are not installed or do not perform according to design efficiency, an application to modify the permit must be submitted. All terms and conditions of this permit shall remain in effect unless and until revised by the permitting authority.
- II. The permittee is subject to all applicable provisions of the Louisiana Air Quality Regulations. Violation of the terms and conditions of the permit constitutes a violation of these regulations.
- III. The Emission Rates for Criteria Pollutants, Emission Rates for TAP/HAP & Other Pollutants, and Specific Requirements sections or, where included, Emission Inventory Questionnaire sheets establish the emission limitations and are a part of the permit. Any operating limitations are noted in the Specific Requirements or, where included, Tables 2 and 3 of the permit. The synopsis is based on the application and Emission Inventory Questionnaire dated August 25, 2006; as well as additional information dated April 30, June 19, and July 19 and 26, 2007.
- IV. This permit shall become invalid, for the sources not constructed, if:
  - A. Construction is not commenced, or binding agreements or contractual obligations to undertake a program of construction of the project are not entered into, within two (2) years (18 months for PSD permits) after issuance of this permit, or;
  - B. If construction is discontinued for a period of two (2) years (18 months for PSD permits) or more.The administrative authority may extend this time period upon a satisfactory showing that an extension is justified.  
This provision does not apply to the time period between construction of the approved phases of a phased construction project. However, each phase must commence construction within two (2) years (18 months for PSD permits) of its projected and approved commencement date.
- V. The permittee shall submit semiannual reports of progress outlining the status of construction, noting any design changes, modifications or alterations in the construction schedule which have or may have an effect on the emission rates or ambient air quality levels. These reports shall continue to be submitted until such time as construction is certified as being complete. Furthermore, for any significant change in the design, prior approval shall be obtained from the Office of Environmental Services, Air Permits Division.
- VI. The permittee shall notify the Department of Environmental Quality, Office of Environmental Services, Air Permits Division within ten (10) calendar days from the date that construction is certified as complete and the estimated date of start-up of operation. The appropriate Regional Office shall also be so notified within the same time frame.

- VII. Any emissions testing performed for purposes of demonstrating compliance with the limitations set forth in paragraph III shall be conducted in accordance with the methods described in the Specific Conditions and, where included, Tables 1, 2, 3, 4, and 5 of this permit. Any deviation from or modification of the methods used for testing shall have prior approval from the Office of Environmental Assessment, Air Quality Assessment Division.
- VIII. The emission testing described in paragraph VII above, or established in the specific conditions of this permit, shall be conducted within sixty (60) days after achieving normal production rate or after the end of the shakedown period, but in no event later than 180 days after initial start-up (or restart-up after modification). The Office of Environmental Assessment, Air Quality Assessment Division shall be notified at least (30) days prior to testing and shall be given the opportunity to conduct a pretest meeting and observe the emission testing. The test results shall be submitted to the Air Quality Assessment Division within sixty (60) days after the complete testing. As required by LAC 33:III.913, the permittee shall provide necessary sampling ports in stacks or ducts and such other safe and proper sampling and testing facilities for proper determination of the emission limits.
- IX. The permittee shall, within 180 days after start-up and shakedown of each project or unit, report to the Office of Environmental Compliance, Enforcement Division any significant difference in operating emission rates as compared to those limitations specified in paragraph III. This report shall also include, but not be limited to, malfunctions and upsets. A permit modification shall be submitted, if necessary, as required in Condition I.
- X. The permittee shall retain records of all information resulting from monitoring activities and information indicating operating parameters as specified in the specific conditions of this permit for a minimum of at least five (5) years.
- XI. If for any reason the permittee does not comply with, or will not be able to comply with, the emission limitations specified in this permit, the permittee shall provide the Office of Environmental Compliance, Enforcement Division with a written report as specified below.
- A. A written report shall be submitted within 7 days of any emission in excess of permit requirements by an amount greater than the Reportable Quantity established for that pollutant in LAC 33.I.Chapter 39.
- B. A written report shall be submitted within 7 days of the initial occurrence of any emission in excess of permit requirements, regardless of the amount, where such emission occurs over a period of seven days or longer.
- C. A written report shall be submitted quarterly to address all emission limitation exceedances not included in paragraphs A or B above. The schedule for submittal of quarterly reports shall be no later than the dates specified below for any emission limitation exceedances occurring during the corresponding specified calendar quarter:
1. Report by June 30 to cover January through March
  2. Report by September 30 to cover April through June
  3. Report by December 31 to cover July through September
  4. Report by March 31 to cover October through December

- D. Each report submitted in accordance with this condition shall contain the following information:
1. Description of noncomplying emission(s);
  2. Cause of noncompliance;
  3. Anticipated time the noncompliance is expected to continue, or if corrected, the duration of the period of noncompliance;
  4. Steps taken by the permittee to reduce and eliminate the noncomplying emissions; and
  5. Steps taken by the permittee to prevent recurrences of the noncomplying emissions.
- E. Any written report submitted in advance of the timeframes specified above, in accordance with an applicable regulation, may serve to meet the reporting requirements of this condition provided all information specified above is included. For Part 70 sources, reports submitted in accordance with Part 70 General Condition R shall serve to meet the requirements of this condition provided all specified information is included. Reporting under this condition does not relieve the permittee from the reporting requirements of any applicable regulation, including LAC 33.I.Chapter 39, LAC 33.III.Chapter 9, and LAC 33.III.5107.
- XII. Permittee shall allow the authorized officers and employees of the Department of Environmental Quality, at all reasonable times and upon presentation of identification, to:
- A. Enter upon the permittee's premises where regulated facilities are located, regulated activities are conducted or where records required under this permit are kept;
  - B. Have access to and copy any records that are required to be kept under the terms and conditions of this permit, the Louisiana Air Quality Regulations, or the Act;
  - C. Inspect any facilities, equipment (including monitoring methods and an operation and maintenance inspection), or operations regulated under this permit; and
  - D. Sample or monitor, for the purpose of assuring compliance with this permit or as otherwise authorized by the Act or regulations adopted thereunder, any substances or parameters at any location.
- XIII. If samples are taken under Section XII.D. above, the officer or employee obtaining such samples shall give the owner, operator or agent in charge a receipt describing the sample obtained. If requested prior to leaving the premises, a portion of each sample equal in volume or weight to the portion retained shall be given to the owner, operator or agent in charge. If an analysis is made of such samples, a copy of the analysis shall be furnished promptly to the owner, operator or agency in charge.
- XIV. The permittee shall allow authorized officers and employees of the Department of Environmental Quality, upon presentation of identification, to enter upon the permittee's premises to investigate potential or alleged violations of the Act or the rules and regulations adopted thereunder. In such investigations, the permittee shall be notified at the time entrance is requested of the nature of the suspected violation. Inspections under this subsection shall be limited to the aspects of alleged violations. However, this shall not in any way preclude prosecution of all violations found.

- XV. The permittee shall comply with the reporting requirements specified under LAC 33:III.919 as well as notification requirements specified under LAC 33:III.927.
- XVI. In the event of any change in ownership of the source described in this permit, the permittee and the succeeding owner shall notify the Office of Environmental Services, Air Permits Division, within ninety (90) days after the event, to amend this permit.
- XVII. Very small emissions to the air resulting from routine operations, that are predictable, expected, periodic, and quantifiable and that are submitted by the permitted facility and approved by the Air Permits Division are considered authorized discharges. Approved activities are noted in the General Condition XVII Activities List of this permit. To be approved as an authorized discharge, these very small releases must:
1. Generally be less than 5 TPY
  2. Be less than the minimum emission rate (MER)
  3. Be scheduled daily, weekly, monthly, etc., or
  4. Be necessary prior to plant startup or after shutdown [line or compressor pressuring/depressuring for example]

These releases are not included in the permit totals because they are small and will have an insignificant impact on air quality. This general condition does not authorize the maintenance of a nuisance, or a danger to public health and safety. The permitted facility must comply with all applicable requirements, including release reporting under LAC 33:I.3901.

- XVIII. Provisions of this permit may be appealed in writing pursuant to La. R.S. 30:2024(A) within 30 days from receipt of the permit. Only those provisions specifically appealed will be suspended by a request for hearing, unless the secretary or the assistant secretary elects to suspend other provisions as well. Construction cannot proceed except as specifically approved by the secretary or assistant secretary. A request for hearing must be sent to the following:

Attention: Office of the Secretary, Legal Services Division  
La. Dept. of Environmental Quality  
Post Office Box 4302  
Baton Rouge, Louisiana 70821-4302

- XIX. Certain Part 70 general conditions may duplicate or conflict with state general conditions. To the extent that any Part 70 conditions conflict with state general conditions, then the Part 70 general conditions control. To the extent that any Part 70 general conditions duplicate any state general conditions, then such state and Part 70 provisions will be enforced as if there is only one condition rather than two conditions.

**General Information**

**AI ID: 1136 Shell Chemical Co - Geismar Plant**  
**Activity Number: PER20060014**  
**Permit Number: 2151-V3**  
**Air - Title V Regular Permit Renewal**

Also Known As:	ID	Name	User Group	Start Date
LAO5258	ADVF #	Shell Chemical Co - Geismar Plant	Asbestos	04-14-2003
0180-00010		CDS Number		08-22-2002
0180-0010		Emission Inventory		02-25-2004
13-1299890		Federal Tax ID		11-21-1999
LAD003913183		Hazardous Waste Notification		09-02-1983
LAD003913183		Inactive & Abandoned Sites		06-09-1981
LA0005754	LPDES #	LPDES Permit #		06-25-2003
WP1347	LWDPS #	LWDPS Permit #		06-25-2003
		Priority 1 Emergency Site		07-18-2006
LA-2132-L01		Radioactive Material License		05-26-1987
2132		X-Ray Registration Number		11-21-1999
G-005-1740	Site ID #	Radiation X-ray Registration Number		
17631		Solid Waste Facility No.		11-21-1999
34601		TEMPO Merge		01-19-2001
38774		TEMPO Merge		08-05-2001
47981		TEMPO Merge		08-05-2001
67594		TEMPO Merge		03-08-2001
0180-0010		Toxic Emissions Data Inventory #		08-05-2001
70737SHLCRIVER	TRI #	Toxic Emissions Data Inventory #		01-01-1991
03-008346	UST Facility ID #	Toxic Release Inventory		07-19-2004
		UST FID #		10-11-2002
7594 Hwy 75		Main Phone:	2252016222	
Geismar, LA 70734				
Physical Location:				
Mailing Address:	PO Box 500			
Location of Front Gate:	Geismar, LA 707340500			
Related People:	Name	Mailing Address	Phone (Type)	Relationship
Anne Adrian	7594 Hwy 75 Geismar, LA 70737	2252016324 (WP)		Water Permit Contact For
Anne Adrian	7594 Hwy 75 Geismar, LA 70737	2252016030 (WF)		Water Permit Contact For
Anne Adrian	7594 Hwy 75 Geismar, LA 70737	2252016324 (WP)		Hazardous Waste Permit Contact For
Anne Adrian	7594 Hwy 75 Geismar, LA 70737	2252016030 (WF)		Hazardous Waste Permit Contact For
Anne Adrian	7594 Hwy 75 Geismar, LA 70737	2252016030 (WF)		Asbestos Contact for
Anne Adrian	7594 Hwy 75 Geismar, LA 70737	2252016030 (WF)		Water Billing Party for

**General Information**

AI ID: 1136 Shell Chemical Co - Geismar Plant  
 Activity Number: PER20060014  
 Permit Number: 2151-V3  
 Air - Title V Regular Permit Renewal

Related People:	Name	Mailing Address	Phone (Type)	Relationship
	Anne Adrian	7594 Hwy 75 Geismar, LA 70737	2252016324 (WNP)	Water Billing Party for
	Anne Adrian	7594 Hwy 75 Geismar, LA 70737	2252016324 (WNP)	Asbestos Contact for
	Lorraine Anderson	PO Box 500 Geismar, LA 707340500	LORRAINE.ANDERSON	Emission Inventory Contact for
	Lorraine Anderson	PO Box 500 Geismar, LA 707340500	2252016586 (WNP)	Emission Inventory Contact for
	Gerald Brouillette	PO Box 500 Geismar, LA 707340500	2252016207 (WNP)	Air Permit Contact For
	Gerald Brouillette	PO Box 500 Geismar, LA 707340500	GERALD.BROUILLE	TEDI Contact for
	Gerald Brouillette	PO Box 500 Geismar, LA 707340500	2252016030 (WVF)	TEDI Contact for
	Gerald Brouillette	PO Box 500 Geismar, LA 707340500	2252016207 (WNP)	TEDI Contact for
	Gerald Brouillette	PO Box 500 Geismar, LA 707340500	GERALD.BROUILLE	Accident Prevention Billing Party for
	Gerald Brouillette	PO Box 500 Geismar, LA 707340500	2252016030 (WVF)	Accident Prevention Billing Party for
	Gerald Brouillette	PO Box 500 Geismar, LA 707340500	2252016207 (WNP)	Accident Prevention Billing Party for
	Gerald Brouillette	PO Box 500 Geismar, LA 707340500	2252016030 (WVF)	Accident Prevention Billing Party for
	Gerald Brouillette	PO Box 500 Geismar, LA 707340500	GERALD.BROUILLE	Air Permit Contact For
	Gerald Brouillette	PO Box 500 Geismar, LA 707340500	2252016456 (WNP)	Responsible Official for
	Gerald Brouillette	PO Box 500 Geismar, LA 707340500	2252016456 (WNP)	Radiation Safety Officer for
	Gerald Brouillette	PO Box 500 Geismar, LA 707340500	2252016456 (WNP)	Radiation Contact For
	Gerald Brouillette	PO Box 500 Geismar, LA 707340500	2252016782 (WNP)	Accident Prevention Contact for
	Gerald Brouillette	PO Box 500 Geismar, LA 707340500	2252016482 (WVF)	Accident Prevention Contact for
Related Organizations:	Name	Address	Phone (Type)	Relationship
	Shell Chemical LP	PO Box 500 Geismar, LA 707340500	2252016247 (WNP)	UST Billing Party for
	Shell Chemical LP	PO Box 500 Geismar, LA 707340500	2252016247 (WNP)	Owns
	Shell Chemical LP	PO Box 500 Geismar, LA 707340500	2252016247 (WNP)	Operates
	Shell Chemical LP	PO Box 500 Geismar, LA 707340500	2252016247 (WNP)	Air Billing Party for
	Shell Chemical LP	PO Box 500 Geismar, LA 707340500	2252016247 (WNP)	Radiation Registration Billing Party for
	Shell Chemical LP	PO Box 500 Geismar, LA 707340500	2252016247 (WNP)	Radiation License Billing Party for

Note: This report entitled "General Information" contains a summary of facility-level information contained in LDEQ's TEMPO database for this facility and is not considered a part of the permit. Please review the information contained in this document for accuracy and completeness. If any changes are required or if you have questions regarding this document, you may contact Mr. David Ferrand, Environmental Assistance Division, at (225) 219-3247 or email your changes to facupdate@la.gov.

**INVENTORIES**

AI ID: 1136 - Shell Chemical Co - Geismar Plant  
 Activity Number: PER20060014  
 Permit Number: 2151-V3  
 Air - Title V Regular Permit Renewal

## Subject Item Inventory:

ID	Description	Tank Volume	Max. Operating Rate	Normal Operating Rate	Contents	Operating Time
<b>Alcohol &amp; OFP Units</b>						
EQT0660	07-71 - K-2 Vent Stack V-K620				8760 hr/yr (All Year)	
EQT0661	08-00 - K-2 Drips Collection Tank T-K869	400 gallons		7300 gallons/yr	8760 hr/yr (All Year)	
EQT0662	08-01 - K-2 Separator P01 Vent			137 lb/hr	8760 hr/yr (All Year)	
EQT0663	08-73 - K-3 L/E Column Vacuum Discharge J-K1701			224 sq. ft	8760 hr/yr (All Year)	
EQT0664	08-83 - K-1 Treater T-K851				8760 hr/yr (All Year)	
EQT0665	09-73 - K-3 Alcohol Flasher Vacuum System J-K1761				8760 hr/yr (All Year)	
EQT0666	11-91 - K-2 H/E Column Vacuum Discharge J-K774				8760 hr/yr (All Year)	
EQT0667	12-91 - K-3 Degasser Bottoms Jet Vent J-K1602-4				1752 hr/yr (All Year)	
EQT0668	13-91 - K-3 Degasser Tops Jet Vent J-K1602-6				1752 hr/yr (All Year)	
EQT0669	14-91 - K-3 Evaporator Jet Vent J-K1601-5				1752 hr/yr (All Year)	
EQT0670	15-91 - K-4 Degasser Bottoms Jet Vent J-K2602-4				1752 hr/yr (All Year)	
EQT0671	16-91 - K-4 Degasser Tops Jet Vent J-K2602-6				1752 hr/yr (All Year)	
EQT0672	17-91 - K-4 Evaporator Jet Vent J-K2601-5				1752 hr/yr (All Year)	
EQT0673	22A1-91 - Alcohol Storage Tank T-K2917	3.43 million gallons		46 MM gallons/yr	8760 hr/yr (All Year)	
EQT0674	22A2-91 - Olefin Storage Tank T-K2916	1.4 million gallons		40.5 MM gallons/yr	8760 hr/yr (All Year)	
EQT0675	22A3-91 - HBS Storage Tank T-K2918	1.01 million gallons		16 MM gallons/yr	8760 hr/yr (All Year)	
EQT0676	22A-91 - K-2 Crude Alcohol Storage Tank T-K962	215913 gallons			8760 hr/yr (All Year)	
EQT0677	22B-91 - K-2 Crude Alcohol Storage Tank T-K963	215913 gallons			8760 hr/yr (All Year)	
EQT0678	22C-91 - K-2 Crude Alcohol Storage Tank T-K964	215913 gallons			8760 hr/yr (All Year)	
EQT0679	22D-91 - K-2 Crude Alcohol Storage Tank T-K965	215913 gallons			8760 hr/yr (All Year)	
EQT0680	22E-91 - K-2 Finished Alcohol Storage Tank T-K972	110160 gallons			8760 hr/yr (All Year)	
EQT0681	22F-91 - K-2 Finished Alcohol Storage Tank T-K973	110160 gallons			8760 hr/yr (All Year)	
EQT0682	22G-91 - K-3 Crude Alcohol Storage Tank T-K1962	217335 gallons			8760 hr/yr (All Year)	
EQT0683	22H-91 - K-3 Crude Alcohol Storage Tank T-K1963	217335 gallons			8760 hr/yr (All Year)	
EQT0684	22I-91 - K-3 Finished Alcohol Storage Tank T-K1972	119924 gallons			8760 hr/yr (All Year)	
EQT0685	22J-91 - K-3 Finished Alcohol Storage Tank T-K1973	119924 gallons			8760 hr/yr (All Year)	
EQT0686	22K-91 - K-4 Finished Alcohol Storage Tank T-K2972	119924 gallons			8760 hr/yr (All Year)	
EQT0687	22L-91 - K-4 Finished Alcohol Storage Tank T-K2973	119924 gallons			8760 hr/yr (All Year)	
EQT0688	22M-91 - K-4 Crude Alcohol Storage Tank T-K2962	217335 gallons			8760 hr/yr (All Year)	
EQT0689	22N-91 - K-4 Crude Alcohol Storage Tank T-K2963	217335 gallons			8760 hr/yr (All Year)	
EQT0690	22O-91 - K-4 Crude Alcohol Storage Tank T-K2964	119924 gallons		9 MM gallons/yr	8760 hr/yr (All Year)	
EQT0691	22P-91 - K-4 Crude Alcohol Storage Tank T-K2965	119924 gallons		9 MM gallons/yr	8760 hr/yr (All Year)	
EQT0692	22Q-91 - K-4 Crude Alcohol Storage Tank T-K961	110160 gallons		9.77 MM gallons/yr	8760 hr/yr (All Year)	
EQT0693	22R-91 - RM-15 Catalyst Storage Tank T-K956	14100 gallons		1.34 MM gallons/yr	8760 hr/yr (All Year)	
EQT0694	22S-91 - RM-15 Catalyst Storage Tank T-K932	39658 gallons		453669 gallons/yr	8760 hr/yr (All Year)	
EQT0695	22T-91 - RM-15 Catalyst Storage Tank T-K2967	10579 gallons		42899 gallons/yr	8760 hr/yr (All Year)	
EQT0696	22U-91 - RM-17 Catalyst Storage Tank T-K957	14100 gallons		243923 gallons/yr	8760 hr/yr (All Year)	
EQT0697	22V-91 - RM-17 Catalyst Storage Tank T-K1957	14100 gallons		233228 gallons/yr	8760 hr/yr (All Year)	
EQT0698	22W-91 - K-2,3,4 L/E Storage Tank T-K977	99455 gallons			8760 hr/yr (All Year)	

INVENTORIES

AI ID: 1136 - Shell Chemical Co - Geismar Plant  
 Activity Number: PER20060014  
 Permit Number: 2151-V3  
 Air - Title V Regular Permit Renewal

## Subject Item Inventory:

ID	Description	Tank Volume	Max. Operating Rate	Normal Operating Rate	Contents	Operating Time
<b>Alcohol &amp; OFF Units</b>						
EQT0699	22X-91 - K-2,3,4 L/E Storage Tank T-K978	99455 gallons				8760 hr/yr (All Year)
EQT0700	22Y-91 - K-2,3,4 L/E Storage Tank T-K979	61102 gallons			909933 gallons/yr	8760 hr/yr (All Year)
EQT0701	22Z-91 - HBS Storage Tank T-K941	88128 gallons			973280 gallons/yr	8760 hr/yr (All Year)
EQT0702	23-83 - K-2 L/E Column Vacuum Discharge E-K713		137 lb/hr			8760 hr/yr (All Year)
EQT0703	23-91 - K-2 Syngas Vent Stack A-U808A		825000 scf/hr			8760 hr/yr (All Year)
EQT0704	24-83 - K-4 L/E Column Vacuum Discharge J-K2701		835 lb/hr			8760 hr/yr (All Year)
EQT0705	25-83 - K-4 Alcohol Flasher Vacuum System J-K2761		564 lb/hr			8760 hr/yr (All Year)
EQT0706	36-96 - K-4 KOH Mix Vessel V-K2552	1481 gallons			205681 gallons/yr	8760 hr/yr (All Year)
EQT0707	37-96 - K-3 KOH Mix Vessel V-K1552	1481 gallons			173321 gallons/yr	8760 hr/yr (All Year)
EQT0708	38-96 - K-2 KOH Mix Vessel V-K554	658 gallons			339021 gallons/yr	8760 hr/yr (All Year)
EQT0709	503-99 - K-5 Alcohol Finishing Column Jet Vent E-K5707		42 lb/hr			4380 hr/yr (All Year)
EQT0710	504-99 - K-5 Degasser Jet Vent After Condenser E-K5623		10 lb/hr			4380 hr/yr (All Year)
EQT0711	505-99 - K-5 Degasser Jet Vent Auxiliary After Condenser E-K5626		10 lb/hr			4380 hr/yr (All Year)
EQT0712	506-99 - K-5 Evaporator Jet Vent After Condenser E-K5639					4380 hr/yr (All Year)
EQT0713	508-01 - K-5 Separator Jet Vent					8760 hr/yr (All Year)
EQT0714	508-99 - K-5 API Separator T-K5964			147 sq. ft		8760 hr/yr (All Year)
EQT0715	550-99 - K-5 Crude Alcohol Storage Tank T-K5962	171057 gallons				8760 hr/yr (All Year)
EQT0716	551-99 - K-5 Crude Alcohol Storage Tank T-K5963	171057 gallons				8760 hr/yr (All Year)
EQT0717	552-99 - K-5 Finished Alcohol Rundown Storage Tank T-K5972	171057 gallons				8760 hr/yr (All Year)
EQT0718	553-99 - K-5 Finished Alcohol Rundown Storage Tank T-K5973	171057 gallons				8760 hr/yr (All Year)
EQT0719	554-99 - K-5 KOH Mix Vessel V-K5552	4010 gallons			540000 gallons/yr	8760 hr/yr (All Year)
EQT0720	602-99 - Regeneration Gas Dryer Vent V-OU402		2500 lb/hr			312 hr/yr (All Year)
EQT0721	603-99 - Regeneration Gas Vent		500 lb/hr			8760 hr/yr (All Year)
EQT0722	620-99 - Regeneration Fired Heater F-OU401		3.3 MM BTU/hr	2 MM BTU/hr		8760 hr/yr (All Year)
EQT0723	621-99 - Hot Oil Furnace F-OU801		20 MM BTU/hr	16 MM BTU/hr		8760 hr/yr (All Year)
EQT0724	650-99 - OFFP Rundown Tank T-OU922	372957 gallons			24.57 MM gallons/yr	8760 hr/yr (All Year)
EQT0725	651-99 - OFFP Rundown Tank T-OU921	2.29 million gallons			24.57 MM gallons/yr	8760 hr/yr (All Year)
EQT0726	652-99 - OA Storage Tank T-OU902	106186 gallons			24.57 MM gallons/yr	8760 hr/yr (All Year)
EQT0727	68-88 - K-3 Hotwell V-K1655					1752 hr/yr (All Year)
EQT0728	69-88 - K-4 Hotwell V-K2655					1752 hr/yr (All Year)
EQT0730	V-K1601 - K-3 Oil Storage Vessel					8760 hr/yr (All Year)
EQT0731	V-K1618 - K-3 Six Reactors & Alcohol Reactor Vent					(None Specified)
EQT0732	V-K1619 - K-3 Alcohol Reactor Flash Separator					(None Specified)
EQT0733	V-K1620 - K-3 ER Drum					(None Specified)
EQT0734	V-K1622 - K-3 LP Syn Gas Knock Out Pot					(None Specified)
EQT0735	V-K1654 - K-3 Recycle Catalyst Surge Vessel					(None Specified)
EQT0736	V-K1763 - K-3 Hydrogenator					(None Specified)
EQT0737	V-K1764 - K-3 Hydrogenator Gas Separator					(None Specified)
EQT0738	V-K2601 - K-4 Oil Storage Vessel					(None Specified)

INVENTORIES

All ID: 1136 - Shell Chemical Co - Geismar Plant  
 Activity Number: PER20060014  
 Permit Number: 2151-V3  
 Air - Title V Regular Permit Renewal

## Subject Item Inventory:

ID	Description	Tank Volume	Max. Operating Rate	Normal Operating Rate	Contents	Operating Time
<b>Alcohol &amp; OFP Units</b>						
EQT0739	V-K2618 - K-4 Six Reactors & Alcohol Reactor Vent				(None Specified)	(None Specified)
EQT0740	V-K2619 - K-4 Alcohol Reactor Flash Separator				(None Specified)	(None Specified)
EQT0741	V-K2620 - K-4 ER Drum				(None Specified)	(None Specified)
EQT0742	V-K2654 - K-4 Recycle Catalyst Surge Vessel				(None Specified)	(None Specified)
EQT0743	V-K2763 - K-4 Hydrogenator				(None Specified)	(None Specified)
EQT0744	V-K2764 - K-4 Hydrogenator Gas Separator				(None Specified)	(None Specified)
EQT0745	V-K618 - K-2 Seven Reactors & Alcohol Reactor Vent				(None Specified)	(None Specified)
EQT0746	V-K619 - K-2 Alcohol Reactor Flash Separator				(None Specified)	(None Specified)
EQT0747	V-K764 - K-2 Hydrogenator Gas Separator				(None Specified)	(None Specified)
EQT0748	V-K601 - K-2 Oil Storage Vessel				(None Specified)	(None Specified)
EQT0749	V-K654 - K-2 Recycle Catalyst Surge Vessel				(None Specified)	(None Specified)
EQT0750	V-K656 - K-2 Hotwell				1752 hr/yr (All Year)	
EQT0751	V-K763 - K-2 Hydrogenator				(None Specified)	(None Specified)
EQT0752	A-K5601 - K-5 Analyzer Vent				(None Specified)	(None Specified)
EQT0753	NINN-46 - K-5 Alcohol Reactor Flash Separator V-K5619				(None Specified)	(None Specified)
EQT0754	NINN-47 - K-2 Hydrogenator Gas Separator				(None Specified)	(None Specified)
EQT0755	FCVSFL - Pressure Control Vent				(None Specified)	(None Specified)
EQT0756	RRR-09 - K-5 Five Reactors & Alcohol Reactor Vent V-K5618				(None Specified)	(None Specified)
EQT0757	RRR-10 - K-2 Hydrogenator V-K5763				(None Specified)	(None Specified)
EQT0758	V-K5601 - K-5 Oil Storage Vessel				(None Specified)	(None Specified)
EQT0759	V-K5620 - K-5 ER Drum				(None Specified)	(None Specified)
EQT0760	V-K5654 - K-5 Recycle Catalyst Surge Vessel				(None Specified)	(None Specified)
EQT0761	V-K5655 - K-5 Hotwell				1752 hr/yr (All Year)	
EQT0762	NINN-44 - L/E Column Overhead Accumulation V-OU202				1752 hr/yr (All Year)	
EQT0763	NINN-45 - Reactor Product Flash OU201 and L/E Flash Vessels				1752 hr/yr (All Year)	
EQT0764	OU213 RRR-12 - Two Reactors V-OU121 and 122				(None Specified)	(None Specified)
EQT0765	V-OU301 - Stripping Knock Out Vessel				(None Specified)	(None Specified)
EQT0766	V-OU501 - OFP ER Drum				(None Specified)	(None Specified)
EQT0767	V-OU802 - Hot Oil Drains Vessel				(None Specified)	(None Specified)
FUG0018	01-06 - K-Units Fugitive Emissions				8760 hr/yr (All Year)	
<b>Stack Information:</b>						
ID	Description	Velocity (ft/sec)	Flow Rate (cubic ft/min-actual)	Diameter (feet)	Discharge Area (square feet)	Height (feet)
<b>Alcohol &amp; OFP Units</b>						
EQT0660	07-71 - K-2 Vent Stack V-K620	.79	928	.5		160
EQT0661	08-00 - K-2 Drips Collection Tank T-K869					85
EQT0662	08-01 - 08-01, K-2 Separator Pot Vent	13.2	18.4	.17		2
EQT0663	08-73 - K-3 L/E Column Vacuum Discharge J-K1701	20.3	15	.13		25
						213
						79
						120

INVENTORIES

**AI ID: 1136 - Shell Chemical Co - Geismar Plant**  
**Activity Number: PER20060014**  
**Permit Number: 2151-V3**  
**Air - Title V Regular Permit Renewal**

## Stack Information:

ID	Description	Velocity (ft/sec)	Flow Rate (cubic ft/min-actual)	Diameter (feet)	Discharge Area (square feet)	Height (feet)	Temperature (°F)
<b>Alcohol &amp; OFP Units</b>							
EQT0665	09-73 - K-3 Alcohol Flasher Vacuum System J-K761	3.9	2.95	.13		82	120
EQT0666	11-91 - K-2 H/E Column Vacuum Discharge J-K774	3.9	2.95	.13		100	120
EQT0667	12-91 - K-3 Degasser Bottoms Jet Vent J-K1602-4	4.9	1.63	.08		82	120
EQT0668	13-91 - K-3 Degasser Tops Jet Vent J-K1602-6	4.9	3.68	.13		82	120
EQT0669	14-91 - K-3 Evaporator Jet Vent J-K1601-5	8.6	6.35	.13		82	120
EQT0670	15-91 - K-4 Degasser Bottoms Jet Vent J-K2602-4	20.3	15	.13		87	120
EQT0671	16-91 - K-4 Degasser Tops Jet Vent J-K2602-6	4.9	3.68	.13		87	120
EQT0672	17-91 - K-4 Evaporator Jet Vent J-K2601-5	8.6	6.35	.13		87	120
EQT0673	22A1-91 - Alcohol Storage Tank T-K2917					32	
EQT0674	22A2-91 - Olefin Storage Tank T-K2916					34	
EQT0675	22A3-91 - H/S Storage Tank T-K2918					34	
EQT0676	22A-91 - K-2 Crude Alcohol Storage Tank T-K962					30	
EQT0677	22B-91 - K-2 Crude Alcohol Storage Tank T-K963					30	
EQT0678	22C-91 - K-2 Crude Alcohol Storage Tank T-K964					30	
EQT0679	22D-91 - K-2 Crude Alcohol Storage Tank T-K965					30	
EQT0680	22E-91 - K-2 Finished Alcohol Storage Tank T-K972					30	
EQT0681	22F-91 - K-2 Finished Alcohol Storage Tank T-K973					30	
EQT0682	22G-91 - K-3 Crude Alcohol Storage Tank T-K1962					32	
EQT0683	22H-91 - K-3 Crude Alcohol Storage Tank T-K1963					32	
EQT0684	22I-91 - K-3 Finished Alcohol Storage Tank T-K1972					28	
EQT0685	22J-91 - K-3 Finished Alcohol Storage Tank T-K1973					28	
EQT0686	22K-91 - K-4 Finished Alcohol Storage Tank T-K2972					28	
EQT0687	22L-91 - K-4 Finished Alcohol Storage Tank T-K2973					28	
EQT0688	22M-91 - K-4 Crude Alcohol Storage Tank T-K2962					32	
EQT0689	22N-91 - K-4 Crude Alcohol Storage Tank T-K2963					32	
EQT0690	22O-91 - K-4 Crude Alcohol Storage Tank T-K2964					28	
EQT0691	22P-91 - K-4 Crude Alcohol Storage Tank T-K2965					28	
EQT0692	22Q-91 - K-4 Crude Alcohol Storage Tank T-K961					30	
EQT0693	22R-91 - RM-15 Catalyst Storage Tank T-K956					24	
EQT0694	22S-91 - RM-15 Catalyst Storage Tank T-K952					30	
EQT0695	22T-91 - RM-15 Catalyst Storage Tank T-K2967					18	
EQT0696	22U-91 - RM-17 Catalyst Storage Tank T-K957					24	
EQT0697	22V-91 - RM-17 Catalyst Storage Tank T-K1957					24	
EQT0698	22W-91 - K-3,4 L/E Storage Tank T-K977					32	

INVENTORIES

AI ID: 1136 - Shell Chemical Co - Geismar Plant  
 Activity Number: PER20060014  
 Permit Number: 2151-V3  
 Air - Title V Regular Permit Renewal

## Stack Information:

ID	Description	Velocity (ft/sec)	Flow Rate (cubic ft/min-actual)	Diameter (feet)	Discharge Area (square feet)	Height (feet)	Temperature (°F)
<b>Alcohol &amp; OFP Units</b>							
EQT0699	22X-91 - K-2,3,4 L/E Storage Tank T-K978					32	
EQT0700	22Y-91 - K-2,3,4 L/E Storage Tank T-K979					26	
EQT0701	22Z-91 - HBS Storage Tank T-K941					24	
EQT0702	23-83 - 23-83, K-2 L/E Column Vacuum Discharge E-K713	20.3	15	.13		100	120
EQT0703	23-91 - 23-91, K-2 Syngas Vent Stack A-U808A	595	13750	.7		80	122
EQT0704	24-83 - K-4 L/E Column Vacuum Discharge J-K2701	20.3	15	.13		82	120
EQT0705	25-83 - K-4 Alcohol Flasher Vacuum System J-K2761	3.9	2.95	.13		82	120
EQT0706	36-96 - K-4 KOH Mix Vessel V-K2552	51.95	1700	.83		31	225
EQT0707	37-96 - K-3 KOH Mix Vessel V-K1532	51.95	1700	.83		31	225
EQT0708	38-96 - K-2 KOH Mix Vessel V-K554	51.95	1700	.83		24	225
EQT0709	503-99 - K-5 Alcohol Finishing Column Jet Vent E-K5707	4.43	5.72	.17		102	124
EQT0710	504-99 - K-5 Degasser Jet Vent After Condenser E-K5623	9.11	6.71	.13		101	122
EQT0711	505-99 - K-5 Degasser Jet Vent Auxiliary After Condenser E-K5626	2.4	1.76	.13		101	111
EQT0712	506-99 - K-5 Evaporator Jet Vent After Condenser E-K5639	13.16	40.32	.26		112	123
EQT0713	508-01 - K-5 Separator Pot Vent	26.3	36.8	.17		25	213
EQT0714	508-99 - K-5 API Separator T-K5964						
EQT0715	550-99 - K-5 Crude Alcohol Storage Tank T-K5962					30	
EQT0716	551-99 - K-5 Crude Alcohol Storage Tank T-K5963					30	
EQT0717	552-99 - K-5 Finished Alcohol Rundown Storage Tank T-K5972					30	
EQT0718	553-99 - K-5 Finished Alcohol Rundown Storage Tank T-K5973					30	
EQT0719	554-99 - K-5 KOH Mix Vessel V-K5552	51.95	1700	.83		31	225
EQT0720	602-99 - Regeneration Gas Dryer Vent V-OU402	150		.17		50.5	450
EQT0721	603-99 - Regeneration Gas Vent	19.4		.33		16	150
EQT0722	620-99 - Regeneration Fired Heater F-OU401	36.5	1100	.8		43	1450
EQT0723	621-99 - Hot Oil Furnace F-OU801	29.2	8600	2.5		90	700
EQT0724	650-99 - OFP Rundown Tank T-OU922					30	
EQT0725	651-99 - OFP Rundown Tank T-OU921					30	
EQT0726	652-99 - OA Storage Tank T-OU902					32	
EQT0727	68-88 - K-3 Hotwell V-K1655	1.7	30	.61		87	120
EQT0728	69-88 - K-4 Hotwell V-K2655	1.7	30	.61		87	120
EQT0750	V-K656 - K-2 Hotwell	1.7	30	.61		87	120
EQT0761	V-K5655 - K-5 Hotwell	1.7	30	.61		87	120
EQT0762	NNN-44 - L/E Column Overhead Accumulation V-OU202	1.7	30	.61		87	120
EQT0763	NNN-45 - Reactor Product Flash OU201 and L/E Flash Vessels OU213	1.7	30	.61		87	120

INVENTORIES

AI ID: 1136 - Shell Chemical Co - Geismar Plant  
 Activity Number: PER20060014  
 Permit Number: 2151-V3  
 Air - Title V Regular Permit Renewal

## Relationships:

## Subject Item Groups:

ID	Group Type	Group Description
GRP0059	Equipment Group	K2341ECAP - K234 Light Ends CAP
GRP0060	Equipment Group	K2CRUDECAP - K2 Crude Alcohol CAP
GRP0061	Equipment Group	K2FINSHCAP - K2 Finished Alcohol CAP
GRP0062	Equipment Group	K3CRUDECAP - K3 Crude Alcohol CAP
GRP0063	Equipment Group	K3FINSHCAP - K3 Finished Alcohol CAP
GRP0064	Equipment Group	K4FINSHCAP - K4 Finished Alcohol CAP
GRP0065	Equipment Group	K5CRUDECAP - K5 Crude Alcohol CAP
GRP0066	Equipment Group	K5FINSHCAP - K5 Finished Alcohol CAP
UNF0002	Unit or Facility Wide	K2345OP - Alcohol & OFF Units

## Group Membership:

ID	Description	Member of Groups
EQT0676	22A-91 - K-2 Crude Alcohol Storage Tank T-K962	GRP0000000060
EQT0677	22B-91 - K-2 Crude Alcohol Storage Tank T-K963	GRP0000000060
EQT0678	22C-91 - K-2 Crude Alcohol Storage Tank T-K964	GRP0000000060
EQT0679	22D-91 - K-2 Crude Alcohol Storage Tank T-K965	GRP0000000060
EQT0680	22E-91 - K-2 Finished Alcohol Storage Tank T-K972	GRP0000000061
EQT0681	22F-91 - K-2 Finished Alcohol Storage Tank T-K973	GRP0000000061
EQT0682	22G-91 - K-3 Crude Alcohol Storage Tank T-K1962	GRP0000000062
EQT0683	22H-91 - K-3 Crude Alcohol Storage Tank T-K1963	GRP0000000062
EQT0684	22I-91 - K-3 Finished Alcohol Storage Tank T-K1972	GRP0000000063
EQT0685	22J-91 - K-3 Finished Alcohol Storage Tank T-K1973	GRP0000000063
EQT0686	22K-91 - K-4 Finished Alcohol Storage Tank T-K2972	GRP0000000064
EQT0687	22L-91 - K-4 Finished Alcohol Storage Tank T-K2973	GRP0000000064
EQT0688	22W-91 - K-2,3,4 L/E Storage Tank T-K977	GRP0000000059
EQT0699	22X-91 - K-2,3,4 L/E Storage Tank T-K978	GRP0000000059
EQT0715	550-99 - K-5 Crude Alcohol Storage Tank T-K5962	GRP0000000065
EQT0716	551-99 - K-5 Crude Alcohol Storage Tank T-K5963	GRP0000000065
EQT0717	552-99 - K-5 Finished Alcohol Rundown Storage Tank T-K5972	GRP0000000066
EQT0718	553-99 - K-5 Finished Alcohol Rundown Storage Tank T-K5973	GRP0000000066

NOTE: The UNF group relationship is not printed in this table. Every subject item is a member of the UNF group

## Annual Maintenance Fee:

Fee Number	Air Contaminant Source	Multiplier	Units Of Measure
0630	Organic Oxides, Alcohols, Glycols (Rated Capacity)	1	MM lb/Yr

## SIC Codes:

**EMISSION RATES FOR CRITERIA POLLUTANTS**

AI ID: 1136 - Shell Chemical Co - Geismar Plant

Activity Number: PER20060014

Permit Number: 2151-V3

Air - Title V Regular Permit Renewal

Subject Item	CO			NOx			PM10			SO2			VOC		
	Avg lb/hr	Max lb/hr	Tons/Year												
<b>Alcohol &amp; OFP Units</b>															
EQT 0660 07-71	174.00	1642.00	764.00										0.52	0.62	2.27
EQT 0661 08-00													0.001		0.01
EQT 0662 08-01	0.27	0.37	1.16										0.05	0.07	0.21
EQT 0663 08-73													0.01	0.02	0.06
EQT 0664 08-83													1.15	2.36	5.05
EQT 0665 09-73													0.001	0.001	0.01
EQT 0666 11-91													0.001	0.01	0.01
EQT 0667 12-91	2.86	3.43	2.50										0.06	0.07	0.05
EQT 0668 13-91	28.79	34.55	25.22										0.09	0.10	0.08
EQT 0669 14-91	6.35	7.62	5.56										0.10	0.12	0.09
EQT 0670 15-91	2.70	3.46	2.36										0.25	0.76	0.22
EQT 0671 16-91	27.18	34.90	23.81										0.37	1.14	0.33
EQT 0672 17-91	6.00	7.69	5.25										0.45	1.37	0.39
EQT 0673 22A-91													0.002	0.01	
EQT 0674 22B-91													0.03	0.12	
EQT 0675 22A3-91													0.04		0.15
EQT 0688 22M-91													0.06		0.26
EQT 0689 22N-91													0.004		0.02
EQT 0690 22O-91													0.01		0.02
EQT 0691 22P-91													0.06		0.26
EQT 0692 22Q-91													0.03		0.11
EQT 0693 22R-91													0.003		0.01
EQT 0694 22S-91													0.003		0.01

**EMISSION RATES FOR CRITERIA POLLUTANTS**

AI ID: 1136 - Shell Chemical Co - Geismar Plant

Activity Number: PER20060014

Permit Number: 2151-V3

Air - Title V Regular Permit Renewal

Subject Item	CO			NOx			PM10			SO2			VOC		
	Avg lb/hr	Max lb/hr	Tons/Year												
<b>Alcohol &amp; GFP Units</b>															
EQT 0655 22T-91													0.01		0.05
EQT 0656 22U-91													0.001		0.01
EQT 0697 22V-91													0.001		0.01
EQT 0701 22Z-91													0.02		0.08
EQT 0702 23-83													0.01	0.02	0.06
EQT 0703 23-91	0.001	0.001	0.01										0.001	0.001	0.01
EQT 0704 24-83													0.29	0.89	0.26
EQT 0705 25-83													0.001	0.001	0.01
EQT 0706 36-96							0.003	0.16	0.01				0.004		0.02
EQT 0707 37-96							0.003	0.16	0.02				0.001		0.01
EQT 0708 38-96							0.01	0.14	0.03				0.003		0.01
EQT 0709 503-99	5.38	6.28	11.78										0.07	0.08	0.15
EQT 0710 504-99	11.80	13.77	25.84										0.04	0.05	0.10
EQT 0711 505-99	4.46	5.24	9.77										0.06	0.07	0.12
EQT 0712 506-99	31.77	37.07	69.58										1.16	1.36	2.55
EQT 0713 508-01	0.53	0.74	2.32										0.10	0.14	0.43
EQT 0714 508-99													0.27	2.36	1.19
EQT 0719 554-99							0.01	0.31	0.06				0.002		0.01
EQT 0720 602-99	0.03	0.03	0.01	0.03	0.03	0.01							1.25	1.50	1.80
EQT 0721 603-99	0.01	0.02	0.01	0.02	0.02	0.01							0.45	0.80	0.20
EQT 0722 620-99	0.20	0.26	0.77	0.29	0.40	1.16	0.02	0.02	0.07	0.001	0.002	0.01	0.01	0.02	0.05
EQT 0723 621-99	1.34	1.62	5.68	0.65	0.81	2.84	0.12	0.15	0.51	0.01	0.04	0.09	0.11	0.38	
EQT 0724 650-99													0.01		0.05

**EMISSION RATES FOR CRITERIA POLLUTANTS**

AI ID: 1136 - Shell Chemical Co - Geismar Plant

Activity Number: PER20060014

Permit Number: 2151-V3

Air - Title V Regular Permit Renewal

Subject Item	CO			NOx			PM10			SO2			VOC		
	Avg lb/hr	Max lb/hr	Tons/Year												
<b>Alcohol &amp; OFP Units</b>															
EQT 0725 651-98													0.01		0.05
EQT 0726 652-98													0.002		0.01
EQT 0727 68-98													0.22	0.27	0.20
EQT 0728 69-98													5.92	4.19	3.63
FUG 0018 01-96	5.93		25.97										7.85		34.37
GRP 0059 K234LECAP													0.33		1.46
GRP 0080 K2CRUDECAP													0.10		0.45
GRP 0081 K2FINSHCAP													0.60		2.65
GRP 0082 K3CRUDECAP													0.03		0.13
GRP 0083 K3FINSHCAP													0.13		0.57
GRP 0084 K4FINSHCAP													0.11		0.49
GRP 0085 K5CRUDECAP													0.01		0.04
GRP 0086 K5FINSHCAP													0.002		0.01

**Note:** Emission rates in bold are from alternate scenarios and are not included in permitted totals unless otherwise noted in a footnote.

**EMISSION RATES FOR TAP/HAP & OTHER POLLUTANTS**

AI ID: 1136 - Shell Chemical Co - Geismar Plant

Activity Number: PER20060014

Permit Number: 2151-V3

Air - Title V Regular Permit Renewal

Emission Pt.	Pollutant	Avg lb/hr	Tons/Year
FUG 0018 01-06	Methanol	0.06	0.27
UNF 0002 K23450FP	Methanol		0.27

Note: Emission rates in bold are from alternate scenarios and are not included in permitted totals unless otherwise noted in a footnote.

**SPECIFIC REQUIREMENTS**

AI ID: 1136 - Shell Chemical Co - Geismar Plant  
 Activity Number: PER20060014  
 Permit Number: 2151-V3  
 Air - Title V Regular Permit Renewal

**EQT0662 08-01, K-2 Separator Pot Vent**

- 1 [LAC 33:III.501.C.51] Emits Class III air toxic pollutants. No controls required under LAC 33:III.5109.A. Shall comply with all other applicable requirements of LAC 33:III.Chapter 51.

**EQT0667 12-91, K-3 Degasser Bottoms Jet Vent J-K1602-4**

- 2 [LAC 33:III.501.C.6] Emission are routed to the SHOP 1 Therminal Furnace, Emission Point 01B-73, or to the atmosphere.

**EQT0668 13-91, K-3 Degasser Tops Jet Vent J-K1602-6**

- 3 [LAC 33:III.501.C.6] Emission are routed to the SHOP 1 Therminal Furnace, Emission Point 01B-73, or to the atmosphere.

**EQT0669 14-91, K-3 Evaporator Jet Vent J-K1601-5**

- 4 [LAC 33:III.501.C.6] Emission are routed to the SHOP 1 Therminal Furnace, Emission Point 01B-73, or to the atmosphere.

**EQT0670 15-91, K-4 Degasser Bottoms Jet Vent J-K2602-4**

- 5 [LAC 33:III.2147.C.2] Maintain vent stream parameters that result in a calculated TRE index value greater than 1.0 without the use of a VOC control device and with or without the use of one or more recovery devices. Calculate the TRE index at the outlet of the final recovery device, if any, as specified in LAC 33:III.2147.D.5.a.i except if an affected vent stream is mixed with an unaffected vent stream prior to the final recovery device as specified in LAC 33:III.2147.D.5.TRE index value  $\geq 1$  (no units) without the use of volatile organic compound emission control device and with or without the use of one or more recovery devices. Calculate the TRE index value at the outlet of the final recovery device, if any, as specified in LAC 33:III.2147.D.5.a.i except if an affected vent stream is mixed with an unaffected vent stream prior to the final recovery device as specified in LAC 33:III.2147.D.5.

- Which Months: All Year Statistical Basis: None specified Recalculate the flow rate, TOC concentration, and TRE index value within two weeks of any process change that could effect a change in one or more of these vent stream parameters. Use the methods and procedures of LAC 33:III.2147 for the recalculations.

- Submit notification: Due within one week after a TRE index value recalculation, as required by LAC 33:III.2147.D.7, yields a value less than or equal to 1. Notify DEQ of the process change and results of the recalculation. Conduct a performance test, as provided in LAC 33:III.2147.D.1.b and D.5, as soon as possible, but no later than 90 days after the recalculation. If the recalculated TRE index value is verified by the performance test to be less than or equal to 1.0, follow all requirements of LAC 33:III.2147 that are applicable to a recalculated TRE value of 1.0 or less.

- Determine compliance with LAC 33:III.2147 using the test methods and procedures specified in LAC 33:III.2147.D.1 through D.9, as applicable.

- Equipment/operational data recordkeeping by electronic or hard copy at the regulation's specified frequency. Keep records of the information specified in LAC 33:III.2147.F.1 through F.4, as applicable.  
 Emission are routed to the SHOP 1 Therminal Furnace, Emission Point 01B-73, or to the atmosphere.

**SPECIFIC REQUIREMENTS**

AI ID: 1136 - Shell Chemical Co - Geismar Plant  
 Activity Number: PER20060014  
 Permit Number: 2151-V3  
**Air - Title V Regular Permit Renewal**

**EQT0671 16-91, K-4 Degasser Tops Jet Vent J-K2602-6**

11 [LAC 33:III.2147.C.2]

Maintain vent stream parameters that result in a calculated TRE index value greater than 1.0 without the use of a VOC control device and with or without the use of one or more recovery devices. Calculate the TRE index at the outlet of the final recovery device, if any, as specified in LAC 33:III.2147.D.5.a.i except if an affected vent stream is mixed with an unaffected vent stream prior to the final recovery device as specified in LAC 33:III.2147.D.5 TRE index value  $\geq 1$  (no units) without the use of volatile organic compound emission control device and with or without the use of one or more recovery devices. Calculate the TRE index value at the outlet of the final recovery device, if any, as specified in LAC 33:III.2147.D.5.a.i except if an affected vent stream is mixed with an unaffected vent stream prior to the final recovery device as specified in LAC 33:III.2147.D.5.

Which Months: All Year Statistical Basis: None specified

Recalculate the flow rate, TOC concentration, and TRE index value within two weeks of any process change that could effect a change in one or more of these vent stream parameters. Use the methods and procedures of LAC 33:III.2147 for the recalculations.

Submit notification: Due within one week after a TRE index value recalculation, as required by LAC 33:III.2147.D.7, yields a value less than or equal to 1. Notify DEQ of the process change and results of the recalculation. Conduct a performance test, as provided in LAC 33:III.2147.D.1.b and D.5, as soon as possible, but no later than 90 days after the recalculation. If the recalculated TRE index value is verified by the performance test to be less than or equal to 1.0, follow all requirements of LAC 33:III.2147 that are applicable to a recalculated TRE value of 1.0 or less.

Determine compliance with LAC 33:III.2147 using the test methods and procedures specified in LAC 33:III.2147.D.1 through D.9, as applicable.

Equipment/operational data recordkeeping by electronic or hard copy at the regulation's specified frequency. Keep records of the information specified in LAC 33:III.2147.F.1 through F.4, as applicable.  
 Emission are routed to the SHOP 1 Termino! Furnace, Emission Point 01B-73, or to the atmosphere.

**EQT0672 17-91, K-4 Evaporator Jet Vent J-K2601-5**

17 [LAC 33:III.2147.C.2]

Maintain vent stream parameters that result in a calculated TRE index value greater than 1.0 without the use of a VOC control device and with or without the use of one or more recovery devices. Calculate the TRE index at the outlet of the final recovery device, if any, as specified in LAC 33:III.2147.D.5.a.i except if an affected vent stream is mixed with an unaffected vent stream prior to the final recovery device as specified in LAC 33:III.2147.D.5 TRE index value  $\geq 1$  (no units) without the use of volatile organic compound emission control device and with or without the use of one or more recovery devices. Calculate the TRE index value at the outlet of the final recovery device, if any, as specified in LAC 33:III.2147.D.5.a.i except if an affected vent stream is mixed with an unaffected vent stream prior to the final recovery device as specified in LAC 33:III.2147.D.5.

Which Months: All Year Statistical Basis: None specified

Recalculate the flow rate, TOC concentration, and TRE index value within two weeks of any process change that could effect a change in one or more of these vent stream parameters. Use the methods and procedures of LAC 33:III.2147 for the recalculations.

Submit notification: Due within one week after a TRE index value recalculation, as required by LAC 33:III.2147.D.7, yields a value less than or equal to 1. Notify DEQ of the process change and results of the recalculation. Conduct a performance test, as provided in LAC 33:III.2147.D.1.b and D.5, as soon as possible, but no later than 90 days after the recalculation. If the recalculated TRE index value is verified by the performance test to be less than or equal to 1.0, follow all requirements of LAC 33:III.2147 that are applicable to a recalculated TRE value of 1.0 or less.

18 [LAC 33:III.2147.D.7]

19 [LAC 33:III.2147.D.8]

**SPECIFIC REQUIREMENTS**

AI ID: 1136 - Shell Chemical Co - Geismar Plant  
 Activity Number: PER20060014  
 Permit Number: 2151-Y3  
 Air - Title V Regular Permit Renewal

**EQT0672 17-91, K-4 Evaporator Jet Vent J-K2601-5**

- 20 [LAC 33:III.2147.D] Determine compliance with LAC 33:III.2147 using the test methods and procedures specified in LAC 33:III.2147.D.1 through D.9, as applicable.
- 21 [LAC 33:III.2147.F] Equipment/operational data recordkeeping by electronic or hard copy at the regulation's specified frequency. Keep records of the information specified in LAC 33:III.2147.F.1 through F.4, as applicable.
- 22 [LAC 33:III.501.C.6] Emission are routed to the SHOP 1 Therminal Furnace, Emission Point 01B-73, or to the atmosphere.

**EQT0701 22Z-91, HBS Storage Tank T-K941**

- 23 [40 CFR 60.112b(a)(1)(ii)(C)] Equip internal floating roof with a mechanical shoe seal consisting of a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof. Subpart Kb. [40 CFR 60.112b(a)(1)(ii)(C)]
- 24 [40 CFR 60.113b(a)(1)] Tank roof and seals monitored by visual inspection/determination at the regulation's specified frequency. Inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, repair the items before filling the storage vessel. Subpart Kb. [40 CFR 60.113b(a)(1)]
- 25 [40 CFR 60.113b(a)(2)] Which Months: All Year Statistical Basis: None specified If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required in this paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, request a 30-day extension from DEQ in the inspection report required in 40 CFR 60.115b(a)(3). Document in the request for extension that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. Subpart Kb. [40 CFR 60.113b(a)(2)]
- 26 [40 CFR 60.113b(a)(2)] Tank roof and seals monitored by visual inspection/determination annually. Inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If a failure is detected during inspections required in this paragraph initiate repair provisions. Subpart Kb. [40 CFR 60.113b(a)(2)]
- 27 [40 CFR 60.113b(a)(3)(ii)] Which Months: All Year Statistical Basis: None specified Tank roof and seals monitored by visual inspection/determination annually as specified in 40 CFR 60.113b(a)(2). Subpart Kb. [40 CFR 60.113b(a)(3)(ii)]
- 28 [40 CFR 60.113b(a)(4)] Which Months: All Year Statistical Basis: None specified If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with VOL. In no event shall inspections conducted in accordance with this provision occur at intervals greater than 10 years in the case of vessels conducting the annual visual inspection as specified in 40 CFR 60.113b(a)(2) and (a)(3)(ii) and at intervals no greater than 5 years in the case of vessels specified in paragraph 40 CFR 60.113b(a)(3)(i) of this section. Subpart Kb. [40 CFR 60.113b(a)(4)]

**SPECIFIC REQUIREMENTS**

AI ID: 1136 - Shell Chemical Co - Geismar Plant  
**Activity Number:** PER20060014  
**Permit Number:** 2151-V3  
**Air - Title V Regular Permit Renewal**

**EQT0701 22Z-91, HBS Storage Tank T-K941**

- 29 [40 CFR 60.113b(a)(4)]  
 Tank roof and seals monitored by visual inspection/determination at the regulation's specified frequency. Inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If a failure is detected during inspections required in this paragraph initiate repair provisions. Subpart Kb. [40 CFR 60.113b(a)(4)]
- 30 [40 CFR 60.113b(a)(5)]  
 Which Months: All Year Statistical Basis: None specified  
 Submit notification in writing: Due at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by 40 CFR 60.113b(a)(1) and (a)(4) to afford DEQ an opportunity to have an observer present. If the inspection required by paragraph 40 CFR 60.113b(a)(4) is not planned and the owner or operator could not have known about the inspection 30 days in advance or refilling the tank, notify DEQ at least 7 days prior to the refilling of the storage vessel. Notify by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, submit notification in writing, including the written documentation and send by express mail so that it is received by DEQ at least 7 days prior to the refilling. Subpart Kb. [40 CFR 60.113b(a)(5)]
- 31 [40 CFR 60.115b(a)(2)]  
 Inspection records recordkeeping by electronic or hard copy upon each occurrence of inspection, per 40 CFR 60.113b(a)(1) through (4). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings). Keep copies of all records for at least two years. Subpart Kb. [40 CFR 60.115b(a)(2)]
- 32 [40 CFR 60.115b(a)(3)]  
 Submit a report: Due to DEQ within 30 days of the annual visual inspection required by 40 CFR 60.113b(a)(2) that detects any of the conditions described in 40 CFR 60.113b(a)(2). Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made. Keep copies of all reports for at least two years. Subpart Kb. [40 CFR 60.115b(a)(3)]
- 33 [40 CFR 60.115b(a)(4)]  
 Submit a report: Due to DEQ within 30 days of each inspection required by 40 CFR 60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in 40 CFR 60.113b(a)(3)(ii). The report shall identify the storage vessel and the reason it did not meet the specifications of 40 CFR 61.112b(a)(1) or 40 CFR. 60.113b(a)(3) and list each repair made. Keep copies of all reports for at least two years. Subpart Kb. [40 CFR 60.115b(a)(4)]
- 34 [40 CFR 60.116b(b)]  
 Equipment/operational data recordkeeping by electronic or hard copy at the approved frequency. Keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Keep copies of all records for the life of the source as specified by 40 CFR 60.116b(a). Subpart Kb. [40 CFR 60.116b(b)]
- 35 [40 CFR 60.116b(c)]  
 VOL storage data recordkeeping by electronic or hard copy at the approved frequency. Records consist of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period. Keep copies of all records for at least two years. Subpart Kb. [40 CFR 60.116b(c)]
- 36 [40 CFR 60.116b(d)]  
 Submit notification: Due within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor pressure values for each volume range. Subpart Kb. [40 CFR 60.116b(d)]

**EQT0704 24-83, K-4 L/E Column Vacuum Discharge J-K2701**

**SPECIFIC REQUIREMENTS**

**AID: 1136 - Shell Chemical Co - Geismar Plant**  
**Activity Number: PER20060014**  
**Permit Number: 2151-V3**  
**Air - Title V Regular Permit Renewal**

**EQT0704 24-83, K-4 L/E Column Vacuum Discharge J-K2701**

37 [LAC 33:III.2147.C.2]

Maintain vent stream parameters that result in a calculated TRE index value greater than 1.0 without the use of a VOC control device and with or without the use of one or more recovery devices. Calculate the TRE index at the outlet of the final recovery device, if any, as specified in LAC 33:III.2147.D.5.a.i except if an affected vent stream is mixed with an unaffected vent stream prior to the final recovery device as specified in LAC 33:III.2147.D.5. TRE index value  $\geq 1$  (no units) without the use of volatile organic compound emission control device and with or without the use of one or more recovery devices. Calculate the TRE index value at the outlet of the final recovery device, if any, as specified in LAC 33:III.2147.D.5.a.i except if an affected vent stream is mixed with an unaffected vent stream prior to the final recovery device as specified in LAC 33:III.2147.D.5.

Which Months: All Year Statistical Basis: None specified

Recalculate the flow rate, TOC concentration, and TRE index value within two weeks of any process change that could effect a change in one or more of these vent stream parameters. Use the methods and procedures of LAC 33:III.2147 for the recalculations.

Submit notification: Due within one week after a TRE index value recalculation, as required by LAC 33:III.2147.D.7, yields a value less than or equal to 1. Notify DEQ of the process change and results of the recalculation. Conduct a performance test, as provided in LAC 33:III.2147.D.1.b and D.5, as soon as possible, but no later than 90 days after the recalculation. If the recalculated TRE index value is verified by the performance test to be less than or equal to 1.0, follow all requirements of LAC 33:III.2147 that are applicable to a recalculated TRE value of 1.0 or less.

Determine compliance with LAC 33:III.2147 using the test methods and procedures specified in LAC 33:III.2147.D.1 through D.9, as applicable.

Equipment/operational data recordkeeping by electronic or hard copy at the regulation's specified frequency. Keep records of the information specified in LAC 33:III.2147.F.1 through F.4, as applicable.

**EQT0705 25-83, K-4 Alcohol Flasher Vacuum System J-K2761**

42 [LAC 33:III.2147.C.2]

Maintain vent stream parameters that result in a calculated TRE index value greater than 1.0 without the use of a VOC control device and with or 33:III.2147.D.5.a.i except if an affected vent stream is mixed with an unaffected vent stream prior to the final recovery device as specified in LAC 33:III.2147.D.5. TRE index value  $\geq 1$  (no units) without the use of volatile organic compound emission control device and with or without the use of one or more recovery devices. Calculate the TRE index value at the outlet of the final recovery device, if any, as specified in LAC 33:III.2147.D.5.a.i except if an affected vent stream is mixed with an unaffected vent stream prior to the final recovery device as specified in LAC 33:III.2147.D.5.

Which Months: All Year Statistical Basis: None specified

Recalculate the flow rate, TOC concentration, and TRE index value within two weeks of any process change that could effect a change in one or more of these vent stream parameters. Use the methods and procedures of LAC 33:III.2147 for the recalculations.

Submit notification: Due within one week after a TRE index value recalculation, as required by LAC 33:III.2147.D.7, yields a value less than or equal to 1. Notify DEQ of the process change and results of the recalculation. Conduct a performance test, as provided in LAC 33:III.2147.D.1.b and D.5, as soon as possible, but no later than 90 days after the recalculation. If the recalculated TRE index value is verified by the performance test to be less than or equal to 1.0, follow all requirements of LAC 33:III.2147 that are applicable to a recalculated TRE value of 1.0 or less.

**SPECIFIC REQUIREMENTS**

AI ID: 1136 - Shell Chemical Co - Geismar Plant  
 Activity Number: PER20060014  
 Permit Number: 2151-V3  
 Air - Title V Regular Permit Renewal

**EQT0705 25-83, K-4 Alcohol Flasher Vacuum System J-K2761**

- 45 [LAC 33:III.2147.D] Determine compliance with LAC 33:III.2147 using the test methods and procedures specified in LAC 33:III.2147.D.1 through D.9, as applicable.  
 Equipment/operational data recordkeeping by electronic or hard copy at the regulation's specified frequency. Keep records of the information specified in LAC 33:III.2147.F.1 through F.4, as applicable.

**EQT0709 503-99, K-5 Alcohol Finishing Column Jet Vent E-K5707**

- 47 [40 CFR 60.660(c)(4)] Total resource effectiveness (TRE) index value greater than 8.0 is exempt from the provisions of 40 CFR 660 except for 40 CFR 60.662; 60.664(d), (e), and (f); and 60.665(h), and (l). [40 CFR 60.660(c)(4), 40 CFR 60.662(c)]  
 Emission routed to the OFP Hot Oil Furnace, Emission Point F-OU801, or to the atmosphere.

**EQT0710 504-99, K-5 Degasser Jet Vent After Condenser E-K5623**

- 49 [40 CFR 60.660(c)(4)] Total resource effectiveness (TRE) index value greater than 8.0 is exempt from the provisions of 40 CFR 660 except for 40 CFR 60.662; 60.664(d), (e), and (f); and 60.665(h), and (l). [40 CFR 60.660(c)(4), 40 CFR 60.662(c)]  
 Emission routed to the OFP Hot Oil Furnace, Emission Point F-OU801, or to the atmosphere.

**EQT0711 505-99, K-5 Degasser Jet Vent Auxiliary After Condenser E-K5626**

- 51 [40 CFR 60.660(c)(4)] Total resource effectiveness (TRE) index value greater than 8.0 is exempt from the provisions of 40 CFR 660 except for 40 CFR 60.662; 60.664(d), (e), and (f); and 60.665(h), and (l). [40 CFR 60.660(c)(4), 40 CFR 60.662(c)]  
 Emission routed to the OFP Hot Oil Furnace, Emission Point F-OU801, or to the atmosphere.

**EQT0712 506-99, K-5 Evaporator Jet Vent After Condenser E-K5639**

- 53 [40 CFR 60.660(c)(4)] Total resource effectiveness (TRE) index value greater than 8.0 is exempt from the provisions of 40 CFR 660 except for 40 CFR 60.662; 60.664(d), (e), and (f); and 60.665(h), and (l). [40 CFR 60.660(c)(4), 40 CFR 60.662(c)]  
 Emission routed to the OFP Hot Oil Furnace, Emission Point F-OU801, or to the atmosphere.

**EQT0721 603-99, Regeneration Gas Vent**

- 55 [LAC 33:III.501.C.6] Emission routed to the OFP Hot Oil Furnace, Emission Point F-OU801, or to the atmosphere.

**EQT0722 620-99, Regeneration Fired Heater F-OU401**

- 56 [40 CFR 60.662(a)] Introduce the vent stream into the flame zone if a process heater or boiler is used to comply. Subpart NNN. [40 CFR 60.662(a)]

**SPECIFIC REQUIREMENTS**

AI ID: 1136 - Shell Chemical Co - Geismar Plant  
 Activity Number: PER20060014  
 Permit Number: 2151-V3  
 Air - Title V Regular Permit Renewal

**EQT0722 620-99, Regeneration Fired Heater F-OU401**

- 57 [40 CFR 60.662(a)] Total Organic Compounds (less methane and ethane)  $\geq 98\%$  reduction by weight, or to a TOC (less methane and ethane) concentration of 20 ppmv on a dry basis corrected to 3 percent oxygen, whichever is less stringent. Subpart NNN. [40 CFR 60.662(a)]
- 58 [40 CFR 60.663(c)(1)] Which Months: All Year Statistical Basis: None specified Flow monitored by flow indicator hourly. Monitor the vent stream flow to the boiler or process heater. Install the flow indicator in the vent stream from each distillation unit within an affected facility at a point closest to the inlet of each boiler or process heater and before being joined with any other vent stream. Subpart NNN. [40 CFR 60.663(c)(1)]
- 59 [40 CFR 60.663(c)(1)] Which Months: All Year Statistical Basis: None specified Flow recordkeeping by electronic or hard copy hourly. Record the vent stream flow to the boiler or process heater at least once every hour for each affected facility. Subpart NNN. [40 CFR 60.663(c)(1)]
- 60 [40 CFR 60.663(c)(2)] Temperature monitored by temperature monitoring device continuously. Install the device in the firebox of the boiler or process heater. Ensure that the temperature device has an accuracy of +/- 1 percent of the temperature being monitored expressed in degrees Celsius or +/- 0.5 degrees C whichever is greater. Subpart NNN. [40 CFR 60.663(c)(2)]
- 61 [40 CFR 60.663(c)(2)] Which Months: All Year Statistical Basis: None specified Temperature recordkeeping by electronic or hard copy continuously. [40 CFR 60.663(c)(2)]
- 62 [40 CFR 60.663(d)] Operating time monitored by hour/time monitor continuously. Monitor the periods of operation. Subpart NNN. [40 CFR 60.663(d)]
- 63 [40 CFR 60.663 (d)] Which Months: All Year Statistical Basis: None specified Operating time recordkeeping by electronic or hard copy as needed. Record the periods of operation. Make records readily available for inspection. Subpart NNN. [40 CFR 60.663(d)]
- 64 [40 CFR 60.664(a)] Run all affected facilities at full operating conditions and flow rates during any performance test intended to demonstrate compliance with 40 CFR 60.662. Subpart NNN. [40 CFR 60.664(a)]
- 65 [40 CFR 60.664(b)] Use the 40 CFR 60 appendix A methods listed in 40 CFR 60.664(b) through (h), except as provided under 40 CFR 60.60.8(b), as reference methods to determine compliance with the emission limit or percent reduction efficiency specified under 40 CFR 60.662(a). Subpart NNN. [40 CFR 60.664(b)]
- 66 [40 CFR 60.665(b)] For a boiler or process heater submit a report containing the information in 40 CFR 60.665(b)(2)(i). Subpart NNN. [40 CFR 60.665(b)]
- 67 [40 CFR 60.665(b)] Performance Test Data recordkeeping by electronic or hard copy at the regulation's specified frequency. Maintain up-to-date, readily accessible records of the required compliance information listed in 40 CFR 60.665(b) through (j) as applicable measured during each performance test required under 40 CFR 60.8. Submit the same specified data in the reports of all subsequently required performance tests where either the emission control efficiency of a control device, outlet concentration of TOC, or the TRE index value of a vent stream from a recovery system is determined. Subpart NNN. [40 CFR 60.665(b)]
- 68 [LAC 33:III.1101.B] Opacity  $<= 20$  percent, except during the cleaning of a fire box or building of a new fire, soot blowing or lanceing, charging of an incinerator, equipment changes, ash removal or rapping of precipitators, which may have an opacity in excess of 20 percent for not more than one six-minute period in any 60 consecutive minutes. Subpart NNN. [40 CFR 60.665(b)]
- 69 [LAC 33:III.1313.C] Which Months: All Year Statistical Basis: None specified Total suspended particulate  $<= 0.6$  lb/MMBTU of heat input.
- 70 [LAC 33:III.1513.C] Which Months: All Year Statistical Basis: None specified Equipment/operational data recordkeeping by electronic or hard copy once initially and annually. Record and retain at the site sufficient data to show annual potential sulfur dioxide emissions.

**SPECIFIC REQUIREMENTS**

AI ID: 1136 - Shell Chemical Co - Geismar Plant  
 Activity Number: PER20060014  
 Permit Number: 2151-V3  
 Air - Title V Regular Permit Renewal

**EQT0723 621-99, Hot Oil Furnace F-OU801**

- 71 [40 CFR 60.662(a)]  
 72 [40 CFR 60.662(a)]
- Introduce the vent stream into the flame zone if a process heater or boiler is used to comply. Subpart NNN. [40 CFR 60.662(a)]  
 Total Organic Compounds (less methane and ethane)  $\geq 98\%$  reduction by weight, or to a TOC (less methane and ethane) concentration of 20 ppmv, on a dry basis corrected to 3 percent oxygen, whichever is less stringent. Subpart NNN. [40 CFR 60.662(a)]
- Which Months: All Year Statistical Basis: None specified
- Flow monitored by flow indicator hourly. Monitor the vent stream flow to the boiler or process heater. Install the flow indicator in the vent stream from each distillation unit within an affected facility at a point closest to the inlet of each boiler or process heater and before being joined with any other vent stream. Subpart NNN. [40 CFR 60.663(c)(1)]
- Which Months: All Year Statistical Basis: None specified
- Flow recordkeeping by electronic or hard copy hourly. Record the vent stream flow to the boiler or process heater at least once every hour for each affected facility. Subpart NNN. [40 CFR 60.663(c)(1)]
- Temperature monitored by temperature monitoring device continuously. Install the device in the firebox of the boiler or process heater. Ensure that the temperature device has an accuracy of +/- 1 percent of the temperature being monitored expressed in degrees Celsius or +/- 0.5 degrees C whichever is greater. Subpart NNN. [40 CFR 60.663(c)(2)]
- Which Months: All Year Statistical Basis: None specified
- Temperature recordkeeping by electronic or hard copy continuously. [40 CFR 60.663(c)(2)]
- Operating time monitored by hour/time monitor continuously. Monitor the periods of operation. Subpart NNN. [40 CFR 60.663(d)]
- Which Months: All Year Statistical Basis: None specified
- Operating time recordkeeping by electronic or hard copy as needed. Record the periods of operation. Make records readily available for inspection. Subpart NNN. [40 CFR 60.663(d)]
- Run all affected facilities at full operating conditions and flow rates during any performance test intended to demonstrate compliance with 40 CFR 60.662. Subpart NNN. [40 CFR 60.664(a)]
- Use the 40 CFR 60 appendix A methods listed in 40 CFR 60.664(b) through (h), except as provided under 40 CFR 60.60 8(b), as reference methods to determine compliance with the emission limit or percent reduction efficiency specified under 40 CFR 60.662(a). Subpart NNN. [40 CFR 60.664(b)]
- For a boiler or process heater submit a report containing the information in 40 CFR 60.665(b)(2)(i). Subpart NNN. [40 CFR 60.665(b)]
- Performance Test Data recordkeeping by electronic or hard copy at the regulations specified frequency. Maintain up-to-date, readily accessible records of the required compliance information listed in 40 CFR 60.665(b) through (j) as applicable measured during each performance test required under 40 CFR 60.8. Submit the same specified data in the reports of all subsequently required performance tests where either the emission control efficiency of a control device, outlet concentration of TOC, or the TRE index value of a vent stream from a recovery system is determined. Subpart NNN. [40 CFR 60.665(b)]
- Opacity  $\leq 20$  percent, except during the cleaning of a fire box or building of a new fire, soot blowing or lancing, charging of an incinerator, equipment changes, ash removal or rapping of precipitators, which may have an opacity in excess of 20 percent for not more than one six-minute period in any 60 consecutive minutes.
- Which Months: All Year Statistical Basis: None specified
- Total suspended particulate  $\leq 0.6$  lb/MMBTU of heat input.
- Which Months: All Year Statistical Basis: None specified
- 83 [LAC 33:III.1101.B]
- 84 [LAC 33:III.1313.C]

**SPECIFIC REQUIREMENTS**

AI ID: 1136 - Shell Chemical Co - Geismar Plant  
 Activity Number: PER20060014  
 Permit Number: 2151-V3  
 Air - Title V Regular Permit Renewal

**EQT0723 621-99, Hot Oil Furnace F-OU801**

85 [LAC 33:III.1513.C]

Equipment/operational data recordkeeping by electronic or hard copy once initially and annually. Record and retain at the site sufficient data to show annual potential sulfur dioxide emissions.

**EQT0727 68-88, K-3 Hotwell V-K1655**

86 [LAC 33:III.501.C.6]

Emission are routed to the SHOP 1 Therminol Furnace, Emission Point 01B-73, or to the atmosphere.

**EQT0728 69-88, K-4 Hotwell V-K2655**

87 [LAC 33:III.501.C.6]

Emission are routed to the SHOP 1 Therminol Furnace, Emission Point 01B-73, or to the atmosphere.

**EQT0730 V-K1601, K-3 Oil Storage Vessel**

88 [LAC 33:III.501.C.6]

Emission are routed to the Plant Flare System, Emission Point 03-73.

**EQT0731 V-K1618, K-3 Six Reactors & Alcohol Reactor Vent**

89 [LAC 33:III.2115.A]

Nonhalogenated hydrocarbon burning: Temperature  $\geq 1300\text{ F}$  ( $704\text{ degrees C}$ ) for 0.3 second or greater in a direct-flame afterburner or an equally effective device which achieves a removal efficiency of 95 percent or greater, as determined in accordance with LAC 33:III.2115.J.1, or if emissions are reduced to 50 ppm by volume, whichever is less stringent.

Which Months: All Year Statistical Basis: None specified

Determine compliance with LAC 33:III.2115.A through G by applying the test methods specified in LAC 33:III.2115.J.1 through 5, as appropriate.

Demonstrate compliance with LAC 33:III.2115 as requested by DEQ.

90 [LAC 33:III.2115.J.]

Install and maintain monitors to accurately measure and record operational parameters of all required control devices as necessary to ensure the proper functioning of those devices in accordance with design specifications. Monitor and record at a minimum the parameters listed in LAC 33:III.2115.J.2.a through e.

Equipment/operational data recordkeeping by electronic or hard copy at the regulation's specified frequency. Maintain the records specified in LAC 33:III.2115.K.1 through K.3. Maintain records on the premises for at least two years and make such information available to representatives of the Louisiana Department of Environmental Quality and the Environmental Protection Agency upon request.

Emission are routed to the SHOP 1 Therminol Furnace, Emission Point 01B-73, or to the Plant Flare System, Emission Point 03-73.

**EQT0732 V-K1619, K-3 Alcohol Reactor Flash Separator**

95 [LAC 33:III.2115.A]

Nonhalogenated hydrocarbon burning: Temperature  $\geq 1300\text{ F}$  ( $704\text{ degrees C}$ ) for 0.3 second or greater in a direct-flame afterburner or an equally effective device which achieves a removal efficiency of 95 percent or greater, as determined in accordance with LAC 33:III.2115.J.1, or if emissions are reduced to 50 ppm by volume, whichever is less stringent.

Which Months: All Year Statistical Basis: None specified

**SPECIFIC REQUIREMENTS**

AI ID: 1136 - Shell Chemical Co - Geismar Plant  
 Activity Number: PER20060014  
 Permit Number: 2151-V3  
 Air - Title V Regular Permit Renewal

**EQT0732 V-K1619, K-3 Alcohol Reactor Flash Separator**

- 96 [LAC 33:III.2115.I] Determine compliance with LAC 33:III.2115.A through G by applying the test methods specified in LAC 33:III.2115.I.1 through 5, as appropriate.
- 97 [LAC 33:III.2115.J.1] Demonstrate compliance with LAC 33:III.2115 as requested by DEQ.
- 98 [LAC 33:III.2115.J.2] Install and maintain monitors to accurately measure and record operational parameters of all required control devices as necessary to ensure the proper functioning of those devices in accordance with design specifications. Monitor and record at a minimum the parameters listed in LAC 33:III.2115.J.2.a through e.
- 99 [LAC 33:III.2115.K] Equipment/operational data recordkeeping by electronic or hard copy at the regulation's specified frequency. Maintain the records specified in LAC 33:III.2115.K.1 through K.3. Maintain records on the premises for at least two years and make such information available to representatives of the Louisiana Department of Environmental Quality and the Environmental Protection Agency upon request.
- 100 [LAC 33:III.501.C.6] Emission are routed to the SHOP 1 Thermol Furnace, Emission Point 01B-73, or to the Plant Flare System, Emission Point 03-73.

**EQT0733 V-K1620, K-3 ER Drum**

- 101 [LAC 33:III.2115.A] Nonhalogenated hydrocarbon burning: Temperature  $\geq 1300\text{ F}$  ( $704\text{ degrees C}$ ) for 0.3 second or greater in a direct-flame afterburner or an equally effective device which achieves a removal efficiency of 95 percent or greater, as determined in accordance with LAC 33:III.2115.J.1, or if emissions are reduced to 50 ppm by volume, whichever is less stringent.  
 Which Months: All Year Statistical Basis: None specified
- 102 [LAC 33:III.2115.I] Determine compliance with LAC 33:III.2115.A through G by applying the test methods specified in LAC 33:III.2115.I.1 through 5, as appropriate.
- 103 [LAC 33:III.2115.J.1] Demonstrate compliance with LAC 33:III.2115 as requested by DEQ.
- 104 [LAC 33:III.2115.J.2] Install and maintain monitors to accurately measure and record operational parameters of all required control devices as necessary to ensure the proper functioning of those devices in accordance with design specifications. Monitor and record at a minimum the parameters listed in LAC 33:III.2115.J.2.a through e.
- 105 [LAC 33:III.2115.K] Equipment/operational data recordkeeping by electronic or hard copy at the regulation's specified frequency. Maintain the records specified in LAC 33:III.2115.K.1 through K.3. Maintain records on the premises for at least two years and make such information available to representatives of the Louisiana Department of Environmental Quality and the Environmental Protection Agency upon request.
- 106 [LAC 33:III.501.C.6] Emission are routed to the Plant Flare System, Emission Point 03-73.

**EQT0734 V-K1622, K-3 LP Syn Gas Knock Out Pot**

- 107 [LAC 33:III.2115.A] Nonhalogenated hydrocarbon burning: Temperature  $\geq 1300\text{ F}$  ( $704\text{ degrees C}$ ) for 0.3 second or greater in a direct-flame afterburner or an equally effective device which achieves a removal efficiency of 95 percent or greater, as determined in accordance with LAC 33:III.2115.J.1, or if emissions are reduced to 50 ppm by volume, whichever is less stringent.  
 Which Months: All Year Statistical Basis: None specified
- 108 [LAC 33:III.2115.I] Determine compliance with LAC 33:III.2115.A through G by applying the test methods specified in LAC 33:III.2115.I.1 through 5, as appropriate.
- 109 [LAC 33:III.2115.J.1] Demonstrate compliance with LAC 33:III.2115 as requested by DEQ.

**SPECIFIC REQUIREMENTS**

AI ID: 1136 - Shell Chemical Co - Geismar Plant  
 Activity Number: PER20060014  
 Permit Number: 2151-V3  
 Air - Title V Regular Permit Renewal

**EQT0734 V-K1622, K-3 LP Syn Gas Knock Out Pot**

110 [LAC 33:III.2115.J.2]

Install and maintain monitors to accurately measure and record operational parameters of all required control devices as necessary to ensure the proper functioning of those devices in accordance with design specifications. Monitor and record at a minimum the parameters listed in LAC 33:III.2115.J.2.a through e.

Equipment/operational data recordkeeping by electronic or hard copy at the regulation's specified frequency. Maintain the records specified in LAC 33:III.2115.K.1 through K.3. Maintain records on the premises for at least two years and make such information available to representatives of the Louisiana Department of Environmental Quality and the Environmental Protection Agency upon request.

Emission are routed to the SHOP 1 Thermol Furnace, Emission Point 01B-73.

**EQT0735 V-K1654, K-3 Recycle Catalyst Surge Vessel**

113 [LAC 33:III.2115.A]

Nonhalogenated hydrocarbon burning: Temperature  $\geq 1300$  F (704 degrees C) for 0.3 second or greater in a direct-flame afterburner or an equally effective device which achieves a removal efficiency of 95 percent or greater, as determined in accordance with LAC 33:III.2115.J.1, or if emissions are reduced to 50 ppm by volume, whichever is less stringent.

Which Months: All Year Statistical Basis: None specified

Determine compliance with LAC 33:III.2115.A through G by applying the test methods specified in LAC 33:III.2115.J.1 through 5, as appropriate.

Demonstrate compliance with LAC 33:III.2115 as requested by DEQ.

Install and maintain monitors to accurately measure and record operational parameters of all required control devices as necessary to ensure the proper functioning of those devices in accordance with design specifications. Monitor and record at a minimum the parameters listed in LAC 33:III.2115.J.2.a through e.

Equipment/operational data recordkeeping by electronic or hard copy at the regulation's specified frequency. Maintain the records specified in LAC 33:III.2115.K.1 through K.3. Maintain records on the premises for at least two years and make such information available to representatives of the Louisiana Department of Environmental Quality and the Environmental Protection Agency upon request.

Emission are routed to the Plant Flare System, Emission Point 03-73.

**EQT0736 V-K1763, K-3 Hydrogenator**

119 [LAC 33:III.2115.A]

Nonhalogenated hydrocarbon burning: Temperature  $\geq 1300$  F (704 degrees C) for 0.3 second or greater in a direct-flame afterburner or an equally effective device which achieves a removal efficiency of 95 percent or greater, as determined in accordance with LAC 33:III.2115.J.1, or if emissions are reduced to 50 ppm by volume, whichever is less stringent.

Which Months: All Year Statistical Basis: None specified

Determine compliance with LAC 33:III.2115.A through G by applying the test methods specified in LAC 33:III.2115.J.1 through 5, as appropriate.

Demonstrate compliance with LAC 33:III.2115 as requested by DEQ.

Install and maintain monitors to accurately measure and record operational parameters of all required control devices as necessary to ensure the proper functioning of those devices in accordance with design specifications. Monitor and record at a minimum the parameters listed in LAC 33:III.2115.J.2.a through e.

**SPECIFIC REQUIREMENTS**

**AI ID: 1136 - Shell Chemical Co - Geismar Plant**  
**Activity Number: PER20060014**  
**Permit Number: 2151-V3**  
**Air - Title V Regular Permit Renewal**

**EQT0736 V-K1763, K-3 Hydrogenator**

123 [LAC 33:III.2115.K]

Equipment/operational data recordkeeping by electronic or hard copy at the regulation's specified frequency. Maintain the records specified in LAC 33:III.2115.K.1 through K.3. Maintain records on the premises for at least two years and make such information available to representatives of the Louisiana Department of Environmental Quality and the Environmental Protection Agency upon request. Emission are routed to the SHOP 1 Thermol Furnace, Emission Point 01B-73, or to the Plant Flare System, Emission Point 03-73.

**EQT0737 V-K1764, K-3 Hydrogenator Gas Separator**

125 [LAC 33:III.2115.A]

Nonhalogenated hydrocarbon burning: Temperature  $\geq 1300$  F (704 degrees C) for 0.3 second or greater in a direct-flame afterburner or an equally effective device which achieves a removal efficiency of 95 percent or greater, as determined in accordance with LAC 33:III.2115.J.1, or if emissions are reduced to 50 ppm by volume, whichever is less stringent.

Which Month(s): All Year Statistical Basis: None specified

Determine compliance with LAC 33:III.2115.A through G by applying the test methods specified in LAC 33:III.2115.I.1 through 5, as appropriate.

Demonstrate compliance with LAC 33:III.2115 as requested by DEQ.

Install and maintain monitors to accurately measure and record operational parameters of all required control devices as necessary to ensure the proper functioning of those devices in accordance with design specifications. Monitor and record at a minimum the parameters listed in LAC 33:III.2115.J.2.a through e.

Equipment/operational data recordkeeping by electronic or hard copy at the regulation's specified frequency. Maintain the records specified in LAC 33:III.2115.K.1 through K.3. Maintain records on the premises for at least two years and make such information available to representatives of the Louisiana Department of Environmental Quality and the Environmental Protection Agency upon request. Emission are routed to the SHOP 1 Thermol Furnace, Emission Point 01B-73, or to the Plant Flare System, Emission Point 03-73.

**EQT0738 V-K2601, K-4 Oil Storage Vessel**

131 [LAC 33:III.501.C.6]

Emission are routed to the Plant Flare System, Emission Point 03-73.

**EQT0739 V-K2618, K-4 Six Reactors & Alcohol Reactor Vent**

132 [LAC 33:III.2147.A.2.a]

Emission are routed to the SHOP 1 Thermol Furnace, Emission Point 01B-73, or to the Plant Flare System, Emission Point 03-73.

**EQT0740 V-K2619, K-4 Alcohol Reactor Flash Separator**

133 [LAC 33:III.2147.A.2.a]

Emission are routed to the SHOP 1 Thermol Furnace, Emission Point 01B-73, or to the Plant Flare System, Emission Point 03-73.

**EQT0741 V-K2620, K-4 ER Drum**

**SPECIFIC REQUIREMENTS**

AI ID: 1136 - Shell Chemical Co - Geismar Plant  
 Activity Number: PER20060014  
 Permit Number: 2151-V3  
 Air - Title V Regular Permit Renewal

**EQT0741 V-K2620, K-4 ER Drum**

- 134 [LAC 33:III.2115.A] Nonhalogenated hydrocarbon burning: Temperature  $\geq 1300\text{ F}$  ( $704\text{ degrees C}$ ) for 0.3 second or greater in a direct-flame afterburner or an equally effective device which achieves a removal efficiency of 95 percent or greater, as determined in accordance with LAC 33:III.2115.J.1, or if emissions are reduced to 50 ppm by volume, whichever is less stringent.  
 Which Months: All Year Statistical Basis: None specified  
 Determine compliance with LAC 33:III.2115.A through G by applying the test methods specified in LAC 33:III.2115.I.1 through 5, as appropriate.  
 Demonstrate compliance with LAC 33:III.2115 as requested by DEQ.
- 135 [LAC 33:III.2115.I] Install and maintain monitors to accurately measure and record operational parameters of all required control devices as necessary to ensure the proper functioning of those devices in accordance with design specifications. Monitor and record at a minimum the parameters listed in LAC 33:III.2115.J.2.a through e.
- 136 [LAC 33:III.2115.J.1] Equipment/operational data recordkeeping by electronic or hard copy at the regulation's specified frequency. Maintain the records specified in LAC 33:III.2115.K.1 through K.3. Maintain records on the premises for at least two years and make such information available to representatives of the Louisiana Department of Environmental Quality and the Environmental Protection Agency upon request.
- 137 [LAC 33:III.2115.J.2] Emission are routed to the Plant Flare System, Emission Point 03-73.

**EQT0742 V-K2654, K-4 Recycle Catalyst Surge Vessel**

- 138 [LAC 33:III.2115.K] Nonhalogenated hydrocarbon burning: Temperature  $\geq 1300\text{ F}$  ( $704\text{ degrees C}$ ) for 0.3 second or greater in a direct-flame afterburner or an equally effective device which achieves a removal efficiency of 95 percent or greater, as determined in accordance with LAC 33:III.2115.J.1, or if emissions are reduced to 50 ppm by volume, whichever is less stringent.  
 Which Months: All Year Statistical Basis: None specified  
 Determine compliance with LAC 33:III.2115.A through G by applying the test methods specified in LAC 33:III.2115.I.1 through 5, as appropriate.  
 Demonstrate compliance with LAC 33:III.2115 as requested by DEQ.
- 139 [LAC 33:III.501.C.6] Install and maintain monitors to accurately measure and record operational parameters of all required control devices as necessary to ensure the proper functioning of those devices in accordance with design specifications. Monitor and record at a minimum the parameters listed in LAC 33:III.2115.J.2.a through e.
- 140 [LAC 33:III.2115.A] Equipment/operational data recordkeeping by electronic or hard copy at the regulation's specified frequency. Maintain the records specified in LAC 33:III.2115.K.1 through K.3. Maintain records on the premises for at least two years and make such information available to representatives of the Louisiana Department of Environmental Quality and the Environmental Protection Agency upon request.

**EQT0743 V-K2763, K-4 Hydrogenator**

- 141 [LAC 33:III.2115.I] Emission are routed to the SHOP 1 Therminal Furnace, Emission Point 01.B-73, or to the Plant Flare System, Emission Point 03-73.

**EQT0744 V-K2764, K-4 Hydrogenator Gas Separator**

**SPECIFIC REQUIREMENTS**

AI ID: 1136 - Shell Chemical Co - Geismar Plant  
 Activity Number: PER20060014  
 Permit Number: 2151-V3  
 Air - Title V Regular Permit Renewal

**EQT0744 V-K2764, K-4 Hydrogenator Gas Separator**

147 [LAC 33:III.2115] Emission are routed to the SHOP 1 Therminol Furnace, Emission Point 01B-73, or to the Plant Flare System, Emission Point 03-73. [LAC 33:III.2115, LAC 33:III.2147.A.2.a]

**EQT0745 V-K618, K-2 Seven Reactors & Alcohol Reactor Vent**

148 [LAC 33:III.501.C.6] Emission are routed to the Plant Flare System, Emission Point 03-73, or the K-2 Vent stack, Emission Point 07-71.

**EQT0746 V-K619, K-2 Alcohol Reactor Flash Separator**

149 [LAC 33:III.501.C.6] Emissions are routed to the SHOP 1 Therminol Furnace, Emission Point 03-73, or the K-2 Vent stack, Emission Point 07-71.

**EQT0747 V-K764, K-2 Hydrogenator Gas Separator**

150 [LAC 33:III.501.C.6] Emissions are routed to the K-2 Vent stack, Emission Point 07-71.

**EQT0748 V-K601, K-2 Oil Storage Vessel**

151 [LAC 33:III.501.C.6] Emissions routed to the K-2 Vent Stack, Emission Point 07-71.

**EQT0749 V-K654, K-2 Recycle Catalyst Surge Vessel**

152 [LAC 33:III.501.C.6] Emissions routed to the K-2 Vent Stack, Emission Point 07-71.

**EQT0750 V-K656, K-2 Hotwell**

153 [LAC 33:III.501.C.6] Emissions routed to the K-2 Vent Stack, Emission Point 07-71.

**EQT0751 V-K763, K-2 Hydrogenator**

154 [LAC 33:III.501.C.6] Emissions routed to the K-2 Vent Stack, Emission Point 07-71.

**EQT0752 A-K5601, K-5 Analyzer Vent**

155 [LAC 33:III.501.C.6] Emission are routed to the Plant Flare System, Emission Point 03-73.

**EQT0753 NNN-46, K-5 Alcohol Reactor Flash Separator V-K5619**

156 [40 CFR 60.662(b)] Combust the emissions in a flare that meets the requirements of 40 CFR 60.18. Subpart NNN. [40 CFR 60.662(b)]  
 157 [LAC 33:III.501.C.6] Emission are routed to the Plant Flare System, Emission Point 03-73.

**SPECIFIC REQUIREMENTS**

AID: 1136 - Shell Chemical Co - Geismar Plant  
 Activity Number: PER20060014  
 Permit Number: 2151-V3  
 Air - Title V Regular Permit Renewal

**EQT0754 NNN-47, K-5 Hydrogenator Gas Separator**

158 [40 CFR 60.662(b)] Combust the emissions in a flare that meets the requirements of 40 CFR 60.18. Subpart NNN. [40 CFR 60.662(b)]  
 159 [LAC 33:III.501.C.6] Emission are routed to the Plant Flare System, Emission Point 03-73.

**EQT0755 PCVSFL, Pressure Control Vent**

160 [LAC 33:III.501.C.6] Emission are routed to the Plant Flare System, Emission Point 03-73.

**EQT0756 RRR-09, K-5 Five Reactors & Alcohol Reactor Vent V-K5618**

161 [40 CFR 60.700(c)(5)] Emissions are routed to a distillation unit subject to NSPS, Subpart NNN, 40 CFR 60.660. Shall comply with the provisions of 40 CFR 60.705(r). [40 CFR 60.700(c)(5)]  
 162 [LAC 33:III.501.C.6] Emission are routed to the Plant Flare System, Emission Point 03-73.

**EQT0757 RRR-10, K-5 Hydrogenator V-K5763**

163 [40 CFR 60.702(b)] Combust the emissions in a flare that meets the requirements of 40 CFR 60.18. Subpart RRR. [40 CFR 60.702(b)]  
 164 [LAC 33:III.501.C.6] Emission are routed to the Plant Flare System, Emission Point 03-73.

**EQT0758 V-K5601, K-5 Oil Storage Vessel**

165 [40 CFR 60.702(b)] Combust the emissions in a flare that meets the requirements of 40 CFR 60.18. Subpart RRR. [40 CFR 60.702(b)]  
 166 [LAC 33:III.501.C.6] Emission are routed to the Plant Flare System, Emission Point 03-73.

**EQT0759 V-K5620, K-5 ER Drum**

167 [LAC 33:III.2115.A] Nonhalogenated hydrocarbon burning: Temperature  $\geq 1300$  F (704 degrees C) for 0.3 second or greater in a direct-flame afterburner or an equally effective device which achieves a removal efficiency of 95 percent or greater, as determined in accordance with LAC 33:III.2115.J.1, or if emissions are reduced to 50 ppm by volume, whichever is less stringent.  
 Which Months: All Year Statistical Basis: None specified  
 Determine compliance with LAC 33:III.2115.A through G by applying the test methods specified in LAC 33:III.2115.I.1 through 5, as appropriate.  
 Demonstrate compliance with LAC 33:III.2115 as requested by DEQ.  
 Install and maintain monitors to accurately measure and record operational parameters of all required control devices as necessary to ensure the proper functioning of those devices in accordance with design specifications. Monitor and record at a minimum the parameters listed in LAC 33:III.2115.J.2.a through e.  
 Equipment/operational data recordkeeping by electronic or hard copy at the regulation's specified frequency. Maintain the records specified in LAC 33:III.2115.K.1 through K.3. Maintain records on the premises for at least two years and make such information available to representatives of the Louisiana Department of Environmental Quality and the Environmental Protection Agency upon request.

**SPECIFIC REQUIREMENTS**

AI ID: 1136 - Shell Chemical Co - Geismar Plant  
 Activity Number: PER20060014  
 Permit Number: 2151-V3  
 Air - Title V Regular Permit Renewal

**EQT0759 V-K5620, K-5 ER Drum**

172 [LAC 33:III.501.C.6] Emission are routed to the Plant Flare System, Emission Point 03-73.

**EQT0760 V-K5654, K-5 Recycle Catalyst Surge Vessel**

173 [LAC 33:III.2115.A] Nonhalogenated hydrocarbon burning: Temperature  $\geq 1300$  F (704 degrees C) for 0.3 second or greater in a direct-flame afterburner or an equally effective device which achieves a removal efficiency of 95 percent or greater, as determined in accordance with LAC 33:III.2115.J.1, or if emissions are reduced to 50 ppm by volume, whichever is less stringent.  
 Which Months: All Year Statistical Basis: None specified  
 Determine compliance with LAC 33:III.2115.A through G by applying the test methods specified in LAC 33:III.2115.I.1 through 5, as appropriate.

Demonstrate compliance with LAC 33:III.2115 as requested by DEQ.  
 Install and maintain monitors to accurately measure and record operational parameters of all required control devices as necessary to ensure the proper functioning of those devices in accordance with design specifications. Monitor and record at a minimum the parameters listed in LAC 33:III.2115.J.2.a through c.

Equipment/operational data recordkeeping by electronic or hard copy at the regulation's specified frequency. Maintain the records specified in LAC 33:III.2115.K.1 through K.3. Maintain records on the premises for at least two years and make such information available to representatives of the Louisiana Department of Environmental Quality and the Environmental Protection Agency upon request.  
 Emission are routed to the Plant Flare System, Emission Point 03-73.

**EQT0761 V-K5655; K-5 Hotwell**

179 [LAC 33:III.501.C.6] Emission are routed to the Plant Flare System, Emission Point 03-73.

**EQT0762 NNN-44, L/E Column Overhead Accumulation V.OU202**

180 [40 CFR 60.662(b)] Combust the emissions in a flare that meets the requirements of 40 CFR 60.18. Subpart NNN. [40 CFR 60.662(b)]  
 181 [LAC 33:III.501.C.6] Emission are routed to the Plant Flare System, Emission Point 03-73.

**EQT0763 NNN-45, Reactor Product Flash OU201 and L/E Flash Vessels OU213**

182 [40 CFR 60.662(b)] Combust the emissions in a flare that meets the requirements of 40 CFR 60.18. Subpart NNN. [40 CFR 60.662(b)]  
 183 [LAC 33:III.501.C.6] Emission are routed to the Plant Flare System, Emission Point 03-73.

**EQT0764 RRR-12, Two Reactors V-OU121 and 122**

184 [40 CFR 60.700(c)(5)] Emissions are routed to a distillation unit subject to NSPS, Subpart NNN, 40 CFR 60.660. Shall comply with the provisions of 40 CFR 60.705(r). [40 CFR 60.700(c)(5)]

**SPECIFIC REQUIREMENTS**

AI ID: 1136 - Shell Chemical Co - Geismar Plant  
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**EQT0765 V-OU301, Stripping Knock Out Vessel**

- 185 [LAC 33:III.2115.A] Nonhalogenated hydrocarbon burning: Temperature  $\geq 1300$  F (704 degrees C) for 0.3 second or greater in a direct-flame afterburner or an equally effective device which achieves a removal efficiency of 95 percent or greater, as determined in accordance with LAC 33:III.2115.J.1, or if emissions are reduced to 50 ppm by volume, whichever is less stringent.  
 Which Months: All Year Statistical Basis: None specified  
 Determine compliance with LAC 33:III.2115.A through G by applying the test methods specified in LAC 33:III.2115.I.1 through 5, as appropriate.
- 186 [LAC 33:III.2115.I] Demonstrate compliance with LAC 33:III.2115 as requested by DEQ.
- 187 [LAC 33:III.2115.J.1] Install and maintain monitors to accurately measure and record operational parameters of all required control devices as necessary to ensure the proper functioning of those devices in accordance with design specifications. Monitor and record at a minimum the parameters listed in LAC 33:III.2115.J.2.a through e.
- 188 [LAC 33:III.2115.J.2] Equipment/operational data recordkeeping by electronic or hard copy at the regulation's specified frequency. Maintain the records specified in LAC 33:III.2115.K.1 through K.3. Maintain records on the premises for at least two years and make such information available to representatives of the Louisiana Department of Environmental Quality and the Environmental Protection Agency upon request.

**EQT0766 V-OU501, OFF ER Drum**

- 189 [LAC 33:III.2115.K] Emission are routed to the Plant Flare System, Emission Point 03-73.
- 190 [LAC 33:III.501.C.6]
- 191 [LAC 33:III.2115.A] Nonhalogenated hydrocarbon burning: Temperature  $\geq 1300$  F (704 degrees C) for 0.3 second or greater in a direct-flame afterburner or an equally effective device which achieves a removal efficiency of 95 percent or greater, as determined in accordance with LAC 33:III.2115.J.1, or if emissions are reduced to 50 ppm by volume, whichever is less stringent.  
 Which Months: All Year Statistical Basis: None specified  
 Determine compliance with LAC 33:III.2115.A through G by applying the test methods specified in LAC 33:III.2115.I.1 through 5, as appropriate.
- 192 [LAC 33:III.2115.I] Demonstrate compliance with LAC 33:III.2115 as requested by DEQ.
- 193 [LAC 33:III.2115.J.1] Install and maintain monitors to accurately measure and record operational parameters of all required control devices as necessary to ensure the proper functioning of those devices in accordance with design specifications. Monitor and record at a minimum the parameters listed in LAC 33:III.2115.J.2.a through e.
- 194 [LAC 33:III.2115.J.2] Equipment/operational data recordkeeping by electronic or hard copy at the regulation's specified frequency. Maintain the records specified in LAC 33:III.2115.K.1 through K.3. Maintain records on the premises for at least two years and make such information available to representatives of the Louisiana Department of Environmental Quality and the Environmental Protection Agency upon request.
- 195 [LAC 33:III.2115.K] Emission are routed to the Plant Flare System, Emission Point 03-73.

**EQT0767 V-OU802, Hot Oil Drains Vessel**

- 196 [LAC 33:III.501.C.6] Emission are routed to the Plant Flare System, Emission Point 03-73.

**FUG0018 01-06, K-Units Fugitive Emissions**

**SPECIFIC REQUIREMENTS**

AI ID: 1136 - Shell Chemical Co - Geismar Plant  
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**FUG0018 01-06, K-Units Fugitive Emissions**

- 198 [40 CFR 60.482-1(a)] OFP: Demonstrate compliance with the requirements of 40 CFR 60.482-1 to 40 CFR 60.482-10 for all equipment within 180 days of initial startup. Subpart VV. [40 CFR 60.482-1(a)]
- 199 [40 CFR 60.482-2(a)(1)] OFP: Pumps in light liquid service (no dual mechanical seal system); VOC, Total monitored by 40 CFR 60, Appendix A, Method 21 monthly to detect leaks by the methods specified in 40 CFR 60.485(b). If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. If a leak is detected, initiate repair provisions specified in 40 CFR 60.482-2(c). Subpart VV. [40 CFR 60.482-2(a)(1)]
- 200 [40 CFR 60.482-2(a)(2)] Which Months: All Year Statistical Basis: None specified  
 OFP: Pumps in light liquid service (no dual mechanical seal system). Presence of a leak monitored by visual inspection/determination weekly (calendar) for indications of liquids dripping from the pump seal. If there are indications of liquids dripping from the pump seal, a leak is detected. If a leak is detected, initiate repair provisions specified in 40 CFR 60.482-2(c). Subpart VV. [40 CFR 60.482-2(a)(2)]
- 201 [40 CFR 60.482-2(c)] Which Months: All Year Statistical Basis: None specified  
 OFP: Pumps in light liquid service (no dual mechanical seal system); When a leak is detected, make a first attempt at repair no later than 5 calendar days after each leak is detected and complete repairs no later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9. Subpart VV. [40 CFR 60.482-2(c)]
- 202 [40 CFR 60.482-2(d)(1)] OFP: Pumps in light liquid service (dual mechanical seal system); Operate the seal system with the barrier fluid at a pressure that is greater than the pump stuffing box pressure; OR equip the seal system with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of 40 CFR 60.482-10; OR equip the seal system with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere. Comply with this requirement instead of the requirements in 40 CFR 60.482-2(a). Subpart VV. [40 CFR 60.482-2(d)(1)]
- 203 [40 CFR 60.482-2(d)(2)] OFP: Pumps in light liquid service (dual mechanical seal system); Ensure that the barrier fluid is in heavy liquid service or not in VOC service. Comply with this requirement instead of the requirements in 40 CFR 60.482-2(a). Subpart VV. [40 CFR 60.482-2(d)(2)]
- 204 [40 CFR 60.482-2(d)(3)] OFP: Pumps in light liquid service (dual mechanical seal system); Equip each barrier fluid system with a sensor that will detect failure of the seal system, barrier fluid system, or both. Comply with this requirement instead of the requirements in 40 CFR 60.482-2(a). Subpart VV. [40 CFR 60.482-2(d)(3)]
- 205 [40 CFR 60.482-2(d)(4)] OFP: Pumps in light liquid service (dual mechanical seal system); Presence of a leak monitored by visual inspection/determination weekly (calendar) for indications of liquids dripping from the pump seal. If there are indications of liquids dripping from the pump seal a leak is detected. If a leak is detected, initiate repair provisions specified in 40 CFR 60.482-2(d)(6)(ii) and (iii). Comply with this requirement instead of the requirements in 40 CFR 60.482-2(a). Subpart VV. [40 CFR 60.482-2(d)(4)]
- 206 [40 CFR 60.482-2(d)(5)(i)] Which Months: All Year Statistical Basis: None specified  
 OFP: Pumps in light liquid service (dual mechanical seal system); Equipment/operational data monitored by visual inspection/determination daily, or equip the sensor with an audible alarm. If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined in 40 CFR 60.482-2(d)(5)(ii), a leak is detected. If a leak is detected, initiate repair provisions specified in 40 CFR 60.482-2(d)(6)(ii) and (iii). Comply with this requirement instead of the requirements in 40 CFR 60.482-2(a). Subpart VV. [40 CFR 60.482-2(d)(5)(i)]
- 207 [40 CFR 60.482-2(d)(5)(ii)] OFP: Pumps in light liquid service (dual mechanical seal system); Determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both. Comply with this requirement instead of the requirements in 40 CFR 60.482-2(a). Subpart VV. [40 CFR 60.482-2(d)(5)(ii)]

**SPECIFIC REQUIREMENTS**

AI ID: 1136 - Shell Chemical Co - Geismar Plant  
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- 208 [40 CFR 60.482-2(d)(6)] OFP: Pumps in light liquid service (dual mechanical seal system); When a leak is detected, make a first attempt at repair no later than 5 calendar days after each leak is detected and complete repairs no later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9. Comply with this requirement instead of the requirements in 40 CFR 60.482-2(a). Subpart VV. [40 CFR 60.482-2(d)(6)]
- 209 [40 CFR 60.482-2(e)(3)] OFP: Pumps in light liquid service (no detectable emissions); VOC, Total monitored by 40 CFR 60, Appendix A, Method 21 once initially and annually, and at other times requested by DEQ. Comply with this requirement instead of the requirements in 40 CFR 60.482-2(a), (c), and (d). Subpart VV. [40 CFR 60.482-2(e)(3)]
- 210 [40 CFR 60.482-2(g)(1)] Which Months: All Year Statistical Basis: None specified OFP: Pumps in light liquid service (unsafe-to-monitor); Demonstrate that the pump is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with 40 CFR 60.482-2(a). Comply with this requirement instead of the monitoring and inspection requirements in 40 CFR 60.482-2(a) and (d)(4) through (6). Subpart VV. [40 CFR 60.482-2(g)(1)]
- 211 [40 CFR 60.482-2(g)(2)] OFP: Pumps in light liquid service (unsafe-to-monitor); VOC, Total monitored by 40 CFR 60, Appendix A, Method 21 at the regulation's specified frequency. Maintain a written plan that requires monitoring of the pump as frequently as practicable during safe to monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in 40 CFR 60.482-2(c) if a leak is detected. Comply with this requirement instead of the monitoring and inspection requirements in 40 CFR 60.482-2(a) and (d)(4) through (6). Subpart VV. [40 CFR 60.482-2(g)(2)]
- 212 [40 CFR 60.482-2(h)] Which Months: All Year Statistical Basis: None specified OFP: Pumps in light liquid service (unmanned plant site); Presence of a leak monitored by visual inspection/determination at the regulation's specified frequency. Comply with this requirement instead of the weekly visual inspection requirement in 40 CFR 60.482-2(a)(2) and (d)(4) and instead of the daily requirements in 40 CFR 482-2(d)(5). Subpart VV. [40 CFR 60.482-2(h)]
- 213 [40 CFR 60.482-3(a)] Which Months: All Year Statistical Basis: None specified OFP: Compressors; Equip with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere, except as specified in 40 CFR 60.482-1(c) and 40 CFR 60.482-3(h) and (i). Subpart VV. [40 CFR 60.482-3(a)]
- 214 [40 CFR 60.482-3(b)] OFP: Compressors; Operate the seal system with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or equip the seal system with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of 40 CFR 60.482-10; or equip the seal system with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere. Subpart VV. [40 CFR 60.482-3(b)]
- 215 [40 CFR 60.482-3(c)] OFP: Compressors; Ensure that the barrier fluid is in heavy liquid service or not in VOC service. Subpart VV. [40 CFR 60.482-3(c)]
- 216 [40 CFR 60.482-3(d)] OFP: Compressors; Equip each barrier fluid system as described in 40 CFR 60.482-3(a) with a sensor that will detect failure of the seal system, barrier fluid system, or both. Subpart VV. [40 CFR 60.482-3(d)]
- 217 [40 CFR 60.482-3(e)(1)] OFP: Compressors (sensor); Equipment/operational data monitored by visual inspection/determination daily, or equip with an audible alarm. If the sensor indicates failure of the seal system, the barrier system, or both based on the criterion determined under 40 CFR 60.482-3(e)(2), a leak is detected. If a leak is detected, initiate repair provisions specified in 40 CFR 60.482-3(g). Subpart VV. [40 CFR 60.482-3(e)(1)]
- 218 [40 CFR 60.482-3(e)(2)] Which Months: All Year Statistical Basis: None specified OFP: Compressors (sensor); Determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both. Subpart VV. [40 CFR 60.482-3(e)(2)]
- 219 [40 CFR 60.482-3(g)] OFP: Compressors; When a leak is detected, make a first attempt at repair no later than 5 calendar days after each leak is detected, except as provided in 40 CFR 60.482-9. Subpart VV. [40 CFR 60.482-3(g)]

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**FUG0018 01-06, K-Units Fugitive Emissions**

- 220 [40 CFR 60.482-3(i)(2)]  
 OFP: Compressors (no detectable emissions); VOC, Total monitored by 40 CFR 60, Appendix A, Method 21 once initially and annually, and at other times requested by DEQ. Comply with this requirement instead of the requirements in 40 CFR 60.482-3(a) through (h). Subpart VV. [40 CFR 60.482-3(i)(2)]
- Which Months: All Year Statistical Basis: None specified  
 OFP: Pressure relief devices in gas/vapor service; VOC, Total < 500 ppm above background, except during pressure releases, as determined by the methods specified in 40 CFR 60.482-4(c). Subpart VV. [40 CFR 60.482-4(a)]
- Which Months: All Year Statistical Basis: None specified  
 OFP: Pressure relief devices in gas/vapor service; After each pressure release, return to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in 40 CFR 60.482-9. Subpart VV. [40 CFR 60.482-4(b)(1)]
- OFP: Pressure relief devices in gas/vapor service; VOC, Total monitored by 40 CFR 60, Appendix A, Method 21 within 5 days (calendar) after a pressure release, to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as specified in 40 CFR 60.485(c). Subpart VV. [40 CFR 60.482-4(b)(2)]
- Which Months: All Year Statistical Basis: None specified  
 OFP: Pressure relief devices in gas/vapor service (rupture disk); After each pressure release, install a new rupture disk upstream of the pressure relief device, as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in 40 CFR 60.482-9. Comply with this requirement instead of the requirements in 40 CFR 60.482-4(d)(2)(a) and (b). Subpart VV. [40 CFR 60.482-4(d)(2)]
- OFP: Sampling connection systems; Equip with a closed-purged, closed-loop, or closed-vent system, except as provided in 40 CFR 60.482-1(c). Operate the system as specified in 40 CFR 60.482-5(a) and (b). Subpart VV.
- OFP: Open-ended valves or lines; Equip with a cap, blind flange, plug, or a second valve, except as provided in 40 CFR 60.482-1(c). The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line. Operate each open-ended valve or line equipped with a second valve such that the valve on the process fluid end is closed before the second valve is closed. The bleed valve or line may remain open during operations requiring venting the line between the block valves of a double block-and-bleed system, but shall comply with 40 CFR 60.482-6(a) at all other times. Subpart VV.
- OFP: Valves in gas/vapor service and in liquid service; When a leak is detected, make a first attempt at repair no later than 5 calendar days after each leak is detected and complete repairs no later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9. Subpart VV. [40 CFR 60.482-7(d)]
- OFP: Valves in light liquid service (no detectable emissions); VOC, Total monitored by 40 CFR 60, Appendix A, Method 21 once initially and annually, and at other times requested by DEQ. Comply with this requirement instead of the requirements in 40 CFR 60.482-7(a). Subpart VV. [40 CFR 60.482-7(f)(3)]
- Which Months: All Year Statistical Basis: None specified  
 OFP: Valves in gas/vapor service and in light liquid service (unsafe-to-monitor); Demonstrate that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with 40 CFR 60.482-7(a). Comply with this requirement instead of the requirements in 40 CFR 60.482-7(a). Subpart VV. [40 CFR 60.482-7(g)(1)]
- OFP: Valves in gas/vapor service and in light liquid service (unsafe-to-monitor); VOC, Total monitored by 40 CFR 60, Appendix A, Method 21 at the regulation's specified frequency. Adhere to a written plan that requires monitoring of the valve as frequently as practicable during safe to monitor times. Comply with this requirement instead of the requirements in 40 CFR 60.482-7(a). Subpart VV. [40 CFR 60.482-7(g)(2)]
- Which Months: All Year Statistical Basis: None specified

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AI ID: 1136 - Shell Chemical Co - Geismar Plant  
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**FUG0018 01-06, K-Units Fugitive Emissions**

- 231 [40 CFR 60.482-7(h)(1)] OFP: Valves in gas/vapor service and in light liquid service (difficult-to-monitor); Demonstrate that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface. Comply with this requirement instead of the requirements in 40 CFR 60.482-7(a). Subpart VV. [40 CFR 60.482-7(h)(1)]
- 232 [40 CFR 60.482-7(h)(3)] OFP: Valves in gas/vapor service and in light liquid service (difficult-to-monitor); VOC, Total monitored by 40 CFR 60, Appendix A, Method 21 annually. Follow a written plan that requires monitoring of the valve at least once per calendar year. Comply with this requirement instead of the requirements in 40 CFR 60.482-7(a). Subpart VV. [40 CFR 60.482-7(h)(3)]
- 233 [40 CFR 60.482-7] Which Months: All Year Statistical Basis: None specified  
 OFP: Valves in gas/vapor service and in light liquid service; VOC, Total monitored by 40 CFR 60, Appendix A, Method 21 monthly to detect leaks by the methods specified in 40 CFR 60.485(b). Permittee may elect to comply with the alternate standards in 40 CFR 60.482-7(c), 60.483-1, or 60.483-2. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. If a leak is detected, initiate repair provisions specified in 40 CFR 60.482-7(d). Subpart VV.
- 234 [40 CFR 60.482-8(a)] Which Months: All Year Statistical Basis: None specified  
 OFP: Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors; VOC, Total monitored by 40 CFR 60, Appendix A, Method 21 within 5 days (calendar) by the method specified in 40 CFR 60.485(b), if evidence of a potential leak to the atmosphere is found by visible, audible, olfactory, or any other detection method and comply with the requirements of 40 CFR 60.482-8(b) through (d); OR eliminate the indication of a leak. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. If a leak is detected, initiate repair provisions specified in 40 CFR 60.482-8(c). Subpart VV. [40 CFR 60.482-8(a)]
- 235 [40 CFR 60.482-8(c)] Which Months: All Year Statistical Basis: None specified  
 OFP: Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors; When a leak is detected, make a first attempt at repair no later than 5 calendar days after each leak is detected and complete repairs no later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9. Subpart VV. [40 CFR 60.482-8(c)]
- 236 [40 CFR 60.485] OFP: In conducting the performance tests required in 40 CFR 60.8, use as reference methods and procedures the test methods in Appendix A of Part 60 or other methods and procedures as specified in 40 CFR 60.485, except as provided in 40 CFR 60.8(b). Conduct any other required demonstrations using the test methods and procedures outlined. Subpart VV.
- 237 [40 CFR 60.486] OFP: Equipment/operational data recordkeeping by electronic or hard copy at the regulation's specified frequency. Record and maintain records as specified 40 CFR 60.486(a) through (k). Subpart VV.
- 238 [40 CFR 60.487(d)] OFP: Submit notification; Due 90 days before implementing either of the alternative standards contained in 40 CFR 60.483-1 or 60.483-2. Notify DEQ of the provision selected. Subpart VV. [40 CFR 60.487(d)]
- 239 [40 CFR 60.487(e)] OFP: Submit performance test results; Due in accordance with 40 CFR 60.8 of the General Provisions. Subpart VV. [40 CFR 60.487(e)]
- 240 [40 CFR 60.487] OFP: Submit semiannual report; Due semiannually to DEQ beginning six months after the initial startup date. Submit the information specified in 40 CFR 60.487(b) and (c). Subpart VV.
- 241 [LAC 33:III.2122.C.1.c] K-4: Repair according to LAC 33:III.2122.C.3 any regulated component observed leaking by sight, sound, or smell, regardless of the leak's concentration, except those covered under LAC 33:III.2122.C.1.d.
- 242 [LAC 33:III.2122.C.1.d] K-4: Pumps and valves in heavy liquid service; VOC, Total monitored by 40 CFR 60, Appendix A, Method 21 within 5 days if observed leaking by sight, sound, or smell. Repair according to LAC 33:III.2122.C.3 if the pump or valve is determined to be leaking in excess of the applicable limits given in LAC 33:III.2122.
- Which Months: All Year Statistical Basis: None specified

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**FUG0018 01-06, K-Units Fugitive Emissions**

- 243 [LAC 33:III.2122.C.2]  
 K-4: Do not locate any valve, except safety pressure relief valves, at the end of a pipe or line containing volatile organic compounds unless the end of such line is sealed with a second valve, a blind flange, a plug, or a cap. Remove such sealing devices only when the line is in use, for example, when a sample is being taken. When the line has been used and is subsequently ressealed, close the upstream valve first, followed by the sealing device.
- 244 [LAC 33:III.2122.C.3]  
 K-4: Make every reasonable effort to repair a leaking component, as described in LAC 33:III.2122, within 15 days, except as provided.
- 245 [LAC 33:III.2122.C.4]  
 K-4: Determine the percent of leaking components at a process unit for a test period using the equation in LAC 33:III.2122.C.4.
- 246 [LAC 33:III.2122.C.5]  
 K-4: Determine the total percent of leaking and unrepairable components using the equation in LAC 33:III.2122.C.5.
- 247 [LAC 33:III.2122.D.1.a]  
 K-4: Process drains; VOC, Total monitored by 40 CFR 60, Appendix A, Method 21 annually (one time per year). If a reading of 1,000 ppmv or greater is recorded, a leak is detected. If a leak is detected, initiate repair provisions specified in LAC 33:III.2122.C.3.  
 Which Months: All Year Statistical Basis: None specified
- 248 [LAC 33:III.2122.D.1.b.i]  
 K-4: Compressor seals; VOC, Total monitored by 40 CFR 60, Appendix A, Method 21 quarterly (four times a year). If a reading of 5,000 ppmv or greater is recorded, a leak is detected. If a leak is detected, initiate repair provisions specified in LAC 33:III.2122.C.3.  
 Which Months: All Year Statistical Basis: None specified
- 249 [LAC 33:III.2122.D.1.b.ii]  
 K-4: Pressure relief valves in gas service; VOC, Total monitored by 40 CFR 60, Appendix A, Method 21 quarterly (four times a year). If a reading of 1,000 ppmv or greater is recorded, a leak is detected. If a leak is detected, initiate repair provisions specified in LAC 33:III.2122.C.3.
- Which Months: All Year Statistical Basis: None specified
- 250 [LAC 33:III.2122.D.1.b.iii]  
 K-4: Valves in light liquid service; VOC, Total monitored by 40 CFR 60, Appendix A, Method 21 quarterly (four times a year). If a reading of 1,000 ppmv or greater is recorded, a leak is detected. If a leak is detected, initiate repair provisions specified in LAC 33:III.2122.C.3. Permittee may elect to comply with the alternate standards for valves in LAC 33:III.2122.E (skip period provisions).
- 251 [LAC 33:III.2122.D.1.b.iv]  
 Which Months: All Year Statistical Basis: None specified
- 252 [LAC 33:III.2122.D.1.b.v]  
 K-4: Pumps in light liquid service; VOC, Total monitored by 40 CFR 60, Appendix A, Method 21 quarterly (four times a year). If a reading of 5,000 ppmv or greater is recorded, a leak is detected. If a leak is detected, initiate repair provisions specified in LAC 33:III.2122.C.3.
- 253 [LAC 33:III.2122.D.1.c]  
 Which Months: All Year Statistical Basis: None specified
- 254 [LAC 33:III.2122.D.1.d.i]  
 K-4: Flanged connectors: Presence of a leak monitored by visual, audible, and/or olfactory weekly.
- 255 [LAC 33:III.2122.D.1.d.ii]  
 Which Months: All Year Statistical Basis: None specified
- 256 [LAC 33:III.2122.D.1.e]  
 K-4: Instrumentation systems: Presence of a leak monitored by visual, audible, and/or olfactory weekly.  
 Which Months: All Year Statistical Basis: None specified

**SPECIFIC REQUIREMENTS**

**A1 ID:** 1136 - Shell Chemical Co - Geismar Plant  
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**Air - Title V Regular Permit Renewal**

**FUG0018 01-06, K-Units Fugitive Emissions**

- 257 [LAC 33:III.2122.D.3.a] K-4: Pressure relief valves; VOC, Total monitored by 40 CFR 60, Appendix A, Method 21 within 24 hours after venting to the atmosphere. If a reading of 1,000 ppmv or greater (for petroleum refineries, SOCMI, M1TBE, and polymer manufacturing industry) or 2,500 ppmv or greater (for natural gas processing plants) is recorded, a leak is detected. If a leak is detected, initiate repair provisions specified in LAC 33:III.2122.C.3.  
 Which Months: All Year Statistical Basis: None specified  
 K-4: All components; VOC, Total monitored by 40 CFR 60, Appendix A, Method 21 upon each occurrence of a leak detected by sight, smell, or sound, unless electing to implement actions as specified in LAC 33:III.2122.C.3.
- 258 [LAC 33:III.2122.D.3.b] Which Months: All Year Statistical Basis: None specified  
 K-4: Inaccessible valves; VOC, Total monitored by 40 CFR 60, Appendix A, Method 21 annually (at a minimum).
- 259 [LAC 33:III.2122.D.3.c] Which Months: All Year Statistical Basis: None specified  
 K-4: Unsafe-to-monitor valves; VOC, Total monitored by 40 CFR 60, Appendix A, Method 21 upon each occurrence of conditions allowing these valves to be monitored safely.
- 260 [LAC 33:III.2122.D.3.d] Which Months: All Year Statistical Basis: None specified  
 K-4: When a component which has a leak that cannot be repaired, as described in LAC 33:III.2122.C, is located, affix to the leaking component a weatherproof and readily visible tag bearing an identification number and the date the leak is located. Remove the tag after the leak has been repaired.
- 261 [LAC 33:III.2122.F.1] K-4: Equipment/operational data recordkeeping by survey log upon each occurrence of a leak. Include the leaking component information specified in LAC 33:III.2122.F.2. a through j. Retain the survey log for two years after the latter date specified in LAC 33:III.2122.F.2 and make said log available to DEQ upon request.
- 262 [LAC 33:III.2122.F] K-4: Submit report. Due semiannually, by the 31st of January and July, to the Office of Environmental Assessment, Air Quality Assessment Division. Include the information specified in LAC 33:III.2122.G. 1 through 6 for each calendar quarter during the reporting period.
- 263 [LAC 33:III.2122.G] OFP: Compliance with the NSPS, Subpart VV, 40 CFR 60.480 is considered compliance with all the applicable requirements of LAC 33:III.2122 except that the leak definition for monitoring shall be 1,000 ppm.
- 264 [LAC 33:III.2122] Emits Class III air toxic pollutants. No controls required under LAC 33:III.5109.A. Shall comply with all other applicable requirements of LAC 33:III. Chapter 51.
- 265 [LAC 33:III.Chapter 51]

**GRP0059 K234 Light Ends CAP**

Group Members: EQT0698 EQT0699

**SPECIFIC REQUIREMENTS**

**AI ID: 1136 - Shell Chemical Co - Geismar Plant**  
**Activity Number: PER20060014**  
**Permit Number: 2151-V3**  
**Air - Title V Regular Permit Renewal**

**GRP0059 K234 Light Ends CAP**

266 [LAC 33:III.501.C.6]

Permittee shall show compliance with the limits of this permit by maintaining the total overall calculated VOC emissions, Emission Point K234LECAP (GRP59) based on the throughput of the stored material from all the tanks listed below to no more than 1.46 TPY. The overall VOC emission of the tanks shall be calculated using tank throughput and recorded each month, as well as the VOC emission calculated for all the tanks for the last twelve months and recorded each month. These records shall be kept on site and available for inspection by the Office of Environmental Compliance, Surveillance Division. Total overall calculated VOC emissions from the tanks above the maximum listed in this specific condition for any twelve consecutive month period shall be a violation of this permit and must be reported to the Office of Environmental Compliance, Enforcement Division. A report showing the overall calculated VOC emissions shall be submitted to the Office of Environmental Compliance, Surveillance Division by March 31 for the preceding calendar year.

Emission Points 22W-91 and 22X-91.

**GRP0060 K2 Crude Alcohol CAP**

Group Members: EQT0676 EQT0677 EQT0678 EQT0679

267 [LAC 33:III.501.C.6]

Permittee shall show compliance with the limits of this permit by maintaining the total overall calculated VOC emissions, Emission Point K2CRUDECAP (GRP60) based on the throughput of the stored material from all the tanks listed below to no more than 0.45 TPY. The overall VOC emission of the tanks shall be calculated using tank throughput and recorded each month, as well as the VOC emission calculated for all the tanks for the last twelve months and recorded each month. These records shall be kept on site and available for inspection by the Office of Environmental Compliance, Surveillance Division. Total overall calculated VOC emissions from the tanks above the maximum listed in this specific condition for any twelve consecutive month period shall be a violation of this permit and must be reported to the Office of Environmental Compliance, Enforcement Division. A report showing the overall calculated VOC emissions shall be submitted to the Office of Environmental Compliance, Surveillance Division by March 31 for the preceding calendar year.

Emission Points 22A-91, 22B-91, 22C-91, and 22D-91.

**GRP0061 K2 Finished Alcohol CAP**

Group Members: EQT0680 EQT0681

**SPECIFIC REQUIREMENTS**

AI ID: 1136 - Shell Chemical Co - Geismar Plant  
 Activity Number: PER20060014  
 Permit Number: 2151-V3  
 Air - Title V Regular Permit Renewal

**GRP0061 K2 Finished Alcohol CAP**

268 [LAC 33.III.501.C.6]

Permittee shall show compliance with the limits of this permit by maintaining the total overall calculated VOC emissions, Emission Point K2FINSHCAP (GRP61) based on the throughput of the stored material from all the tanks listed below to no more than 2.65 TPY. The overall VOC emission of the tanks shall be calculated using tank throughput and recorded each month, as well as the VOC emission calculated for all the tanks for the last twelve months and recorded each month. These records shall be kept on site and available for inspection by the Office of Environmental Compliance, Surveillance Division. Total overall calculated VOC emissions from the tanks above the maximum listed in this specific condition for any twelve consecutive month period shall be a violation of this permit and must be reported to the Office of Environmental Compliance, Enforcement Division. A report showing the overall calculated VOC emissions shall be submitted to the Office of Environmental Compliance, Surveillance Division by March 31 for the preceding calendar year.

Emission Points 22E-91 and 22F-91.

**GRP0062 K3 Crude Alcohol CAP**

Group Members: EQT0682 EQT0683

269 [LAC 33.III.501.C.6]

Permittee shall show compliance with the limits of this permit by maintaining the total overall calculated VOC emissions, Emission Point K3CRUDECAP (GRP62) based on the throughput of the stored material from all the tanks listed below to no more than 0.13 TPY. The overall VOC emission of the tanks shall be calculated using tank throughput and recorded each month, as well as the VOC emission calculated for all the tanks for the last twelve months and recorded each month. These records shall be kept on site and available for inspection by the Office of Environmental Compliance, Surveillance Division. Total overall calculated VOC emissions from the tanks above the maximum listed in this specific condition for any twelve consecutive month period shall be a violation of this permit and must be reported to the Office of Environmental Compliance, Enforcement Division. A report showing the overall calculated VOC emissions shall be submitted to the Office of Environmental Compliance, Surveillance Division by March 31 for the preceding calendar year.

Emission Points 22G-91 and 22H-91.

**GRP0063 K3 Finished Alcohol CAP**

Group Members: EQT0684 EQT0685

**SPECIFIC REQUIREMENTS**

AI ID: 1136 - Shell Chemical Co - Geismar Plant  
 Activity Number: PER20060014  
 Permit Number: 2151-V3  
 Air - Title V Regular Permit Renewal

**GRP0063 K3 Finished Alcohol CAP**

270 [LAC 33:III.501.C.6]

Permittee shall show compliance with the limits of this permit by maintaining the total overall calculated VOC emissions, Emission Point K3FINSHCAP (GRP63) based on the throughput of the stored material from all the tanks listed below to no more than 0.57 TPY. The overall VOC emission of the tanks shall be calculated using tank throughput and recorded each month, as well as the VOC emission calculated for all the tanks for the last twelve months and recorded each month. These records shall be kept on site and available for inspection by the Office of Environmental Compliance, Surveillance Division. Total overall calculated VOC emissions from the tanks above the maximum listed in this specific condition for any twelve consecutive month period shall be a violation of this permit and must be reported to the Office of Environmental Compliance, Enforcement Division. A report showing the overall calculated VOC emissions shall be submitted to the Office of Environmental Compliance, Surveillance Division by March 31 for the preceding calendar year.

Emission Points 221-91 and 22J-91.

**GRP0064 K4 Finished Alcohol CAP**

Group Members: EQT0686 EQT0687

271 [LAC 33:III.501.C.6]

Permittee shall show compliance with the limits of this permit by maintaining the total overall calculated VOC emissions, Emission Point K4FINSHCAP (GRP64) based on the throughput of the stored material from all the tanks listed below to no more than 0.49 TPY. The overall VOC emission of the tanks shall be calculated using tank throughput and recorded each month, as well as the VOC emission calculated for all the tanks for the last twelve months and recorded each month. These records shall be kept on site and available for inspection by the Office of Environmental Compliance, Surveillance Division. Total overall calculated VOC emissions from the tanks above the maximum listed in this specific condition for any twelve consecutive month period shall be a violation of this permit and must be reported to the Office of Environmental Compliance, Enforcement Division. A report showing the overall calculated VOC emissions shall be submitted to the Office of Environmental Compliance, Surveillance Division by March 31 for the preceding calendar year.

Emission Points 222K-91 and 22L-91.

**GRP0065 K5 Crude Alcohol CAP**

Group Members: EQT0715 EQT0716

**SPECIFIC REQUIREMENTS**

AI ID: 1136 - Shell Chemical Co - Geismar Plant  
 Activity Number: PER20060014  
 Permit Number: 2151-V3  
 Air - Title V Regular Permit Renewal

**GRP0065 K5 Crude Alcohol CAP**

272 [LAC 33:III.501.C.6]

Permittee shall show compliance with the limits of this permit by maintaining the total overall calculated VOC emissions, Emission Point K5CRUDECAP (GRP65) based on the throughput of the stored material from all the tanks listed below to no more than 0.01 TPY. The overall VOC emission of the tanks shall be calculated using tank throughput and recorded each month, as well as the VOC emission calculated for all the tanks for the last twelve months and recorded each month. These records shall be kept on site and available for inspection by the Office of Environmental Compliance, Surveillance Division. Total overall calculated VOC emissions from the tanks above the maximum listed in this specific condition for any twelve consecutive month period shall be a violation of this permit and must be reported to the Office of Environmental Compliance, Enforcement Division. A report showing the overall calculated VOC emissions shall be submitted to the Office of Environmental Compliance, Surveillance Division by March 31 for the preceding calendar year.

Emission Points 550-99 and 551-99.

**GRP0066 K5 Finished Alcohol CAP**

Group Members: EQT0717 EQT0718

273 [LAC 33:III.501.C.6]

Permittee shall show compliance with the limits of this permit by maintaining the total overall calculated VOC emissions, Emission Point K5FINSHCAP (GRP66) based on the throughput of the stored material from all the tanks listed below to no more than 0.01 TPY. The overall VOC emission of the tanks shall be calculated using tank throughput and recorded each month, as well as the VOC emission calculated for all the tanks for the last twelve months and recorded each month. These records shall be kept on site and available for inspection by the Office of Environmental Compliance, Surveillance Division. Total overall calculated VOC emissions from the tanks above the maximum listed in this specific condition for any twelve consecutive month period shall be a violation of this permit and must be reported to the Office of Environmental Compliance, Enforcement Division. A report showing the overall calculated VOC emissions shall be submitted to the Office of Environmental Compliance, Surveillance Division by March 31 for the preceding calendar year.

Emission Points 552-99 and 553-99.

**UNF0002 Alcohol & OFP Units**

- 274 [40 CFR 60.]
- 275 [40 CFR 61.]
- 276 [40 CFR 63.]
- 277 [40 CFR 70.5(a)(1)(iii)]
- 278 [40 CFR 70.6(a)(3)(iii)(A)]

All affected facilities shall comply with all applicable provisions in 40 CFR 60 Subpart A.

All affected facilities shall comply with all applicable provisions in 40 CFR 61 Subpart A.

All affected facilities shall comply with all applicable provisions in 40 CFR 63 Subpart A.

Submit Title V permit application for renewal: Due 6 months before permit expiration date. [40 CFR 70.5(a)(1)(iii)]

Submit Title V monitoring results report: Due semiannually, by March 31st and September 30th for the preceding periods encompassing July through December and January through June, respectively. Submit reports to the Office of Environmental Compliance, Surveillance Division. Certify reports by a responsible company official. Clearly identify all instances of deviations from permitted monitoring requirements. For previously reported deviations, in lieu of attaching the individual deviation reports, clearly reference the communication(s)/correspondence(s) constituting the prior report, including the date the prior report was submitted. [40 CFR 70.6(a)(3)(iii)(A)]

**SPECIFIC REQUIREMENTS**

AI ID: 1136 - Shell Chemical Co - Geismar Plant  
 Activity Number: PER20060014  
 Permit Number: 2151-V3  
 Air - Title V Regular Permit Renewal

**UNF0002 Alcohol & OFP Units**

- 279 [40 CFR 70.6(a)(3)(iii)(B)]  
 Submit Title V excess emissions report: Due quarterly, by June 30, September 30, December 31, March 31. Submit reports of all permit deviations to the Office of Environmental Compliance, Surveillance Division. Certify all reports by a responsible official in accordance with 40 CFR 70.5(d). The reports submitted on March 31 and September 30 may be consolidated with the semi-annual reports required by 40 CFR 70.6(a)(3)(ii)(A) as long as the report clearly indicates this and all required information is included and clearly delineated in the consolidated report. Unless required by an applicable reporting requirement, a written report is not required during periods in which there is no deviation. [40 CFR 70.6(a)(3)(iii)(B)]
- 280 [40 CFR 70.6(c)(5)(iv)]  
 Submit Title V compliance certification: Due annually, by the 31st of March. Submit to the Office of Environmental Compliance, Surveillance Division. [40 CFR 70.6(c)(5)(iv)]
- 281 [40 CFR 82. Subpart F]  
 Comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B.
- 282 [LAC 33:III.1103]  
 Emissions of smoke which pass onto or across a public road and create a traffic hazard by impairment of visibility as defined in LAC 33:III.1111 or intensify an existing traffic hazard condition are prohibited.
- 283 [LAC 33:III.1109.B]  
 Outdoor burning of waste material or other combustible material is prohibited.
- 284 [LAC 33:III.1303.B]  
 Emissions of particulate matter which pass onto or across a public road and create a traffic hazard by impairment of visibility or intensify an existing traffic hazard condition are prohibited.
- 285 [LAC 33:III.1305]  
 Prevent particulate matter from becoming airborne by taking all reasonable precautions. These precautions shall include, but not be limited to, those specified in LAC 33:III.1305.A. 1-7.
- 286 [LAC 33:III.2113.A]  
 Maintain best practical housekeeping and maintenance practices at the highest possible standards to reduce the quantity of organic compounds emissions. Good housekeeping shall include, but not be limited to, the practices listed in LAC 33:III.2113.A. 1-5.
- 287 [LAC 33:III.219]  
 Failure to pay the prescribed application fee or annual fee as provided herein, within 90 days after the due date, will constitute a violation of these regulations and shall subject the person to applicable enforcement actions under the Louisiana Environmental Quality Act including, but not limited to, revocation or suspension of the applicable permit, license, registration, or variance.
- 288 [LAC 33:III.2901.D]  
 Discharges of odorous substances at or beyond property lines which cause a perceived odor intensity of six or greater on the specified eight point butanol scale as determined by Method 41 of LAC 33:III.2901.G are prohibited.
- 289 [LAC 33:III.2901.F]  
 If requested to monitor for odor intensity, take and transport samples in a manner which minimizes alteration of the samples either by contamination or loss of material. Evaluate all samples as soon after collection as possible in accordance with the procedures set forth in LAC 33:III.2901.G.
- 290 [LAC 33:III.501.C.6]  
 Nitrogen dioxide <= 4.02 tons/yr.  
 Which Months: All Year Statistical Basis: Annual maximum
- 291 [LAC 33:III.509]  
 Comply with the requirements of PSD-LA-647 (M-3). This permit includes provisions of the Prevention of Significant Deterioration (PSD) review from Permit PSD-LA-647 (M-3).
- 292 [LAC 33:III.5105.A.1]  
 Do not construct or modify any stationary source subject to any standard set forth in LAC 33:III. Chapter 51. Subchapter A without first obtaining written authorization from DEQ in accordance with LAC 33:III. Chapter 51. Subchapter A, after the effective date of the standard.
- 293 [LAC 33:III.5105.A.2]  
 Do not cause a violation of any ambient air standard listed in LAC 33:III. Table 51.2, unless operating in accordance with LAC 33:III.5109.
- 294 [LAC 33:III.5105.A.3]  
 Do not build, erect, install, or use any article, machine, equipment, process, or method, the use of which conceals an emission that would otherwise constitute a violation of an applicable standard.

**SPECIFIC REQUIREMENTS**

AI ID: 1136 - Shell Chemical Co - Geismar Plant  
 Activity Number: PER20060014  
 Permit Number: 2151-V3  
 Air - Title V Regular Permit Renewal

**UNF0002 Alcohol & OFP Units**

- 295 [LAC 33:III.5105.A.4] Do not fail to keep records, notify, report or revise reports as required under LAC 33:III.Chapter 51.Subchapter A.
- 296 [LAC 33:III.5107.A.2] Submit Annual Emissions Report (TERDI). Due annually, by the 1st of July, to the Office of Environmental Assessment, Air Quality Assessment Division, in a format specified by DEQ. Identify the quantity of emissions in the previous calendar year for any toxic air pollutant listed in Table 51.1 or Table 51.3.
- 297 [LAC 33:III.5107.A.3] Include a certification statement with initial and subsequent annual emission reports and revisions to any emission report to attest that the information contained in the emission report is true, accurate, and complete, and signed by a responsible official, as defined in LAC 33:III.502. Include the full name of the responsible official, title, signature, date of signature and phone number of the responsible official. The certification statement shall read: "I certify, under penalty of perjury, that the emissions data provided is accurate to the best of my knowledge, information, and belief, and I understand that submitting false or misleading information will expose me to prosecution under state regulations"
- 298 [LAC 33:III.5107.B.1] Submit notification: Due to the Department of Public Safety 24-hour Louisiana Emergency Hazardous Materials Hotline at (225) 925-6395 immediately, but no later than 1 hour, after any discharge of a toxic air pollutant into the atmosphere which results or threatens to result in an emergency condition (a condition which could reasonably be expected to endanger the health and safety of the public, cause significant adverse impact to the land, water or air environment, or cause severe damage to property).
- 299 [LAC 33:III.5107.B.2] Submit notification: Due to the Office of Environmental Compliance, Emergency and Radiological Services Division, Single Point of Contact (SPOC), except as provided in LAC 33:III.5107.B.6, no later than 24 hours after the beginning of any unauthorized discharge into the atmosphere of a toxic air pollutant as a result of bypassing an emission control device, when the emission control bypass was not the result of an upset, and the quantity of the unauthorized bypass is greater than or equal to the lower of the Minimum Emission Rate (MER) in LAC 33:III.5112, Table 51.1, or a reportable quantity (RQ) in LAC 33:1.3931, or the quantity of the unauthorized bypass is greater than one pound and there is no MER or RQ for the substance in question. Submit notification in the manner provided in LAC 33:I.3923.
- 300 [LAC 33:III.5107.B.3] Submit notification: Due to the Office of Environmental Compliance, Emergency and Radiological Services, SPOC, immediately, but in no case later than 24 hours after any unauthorized discharge of a toxic air pollutant into the atmosphere that does not cause an emergency condition, the rate or quantity of which is in excess of that allowed by permit, compliance schedule, or variance, or for upset events that exceed the reportable quantity in LAC 33:1.3931, except as provided in LAC 33:III.5107.B.6. Submit notification in the manner provided in LAC 33:1.3923.
- 301 [LAC 33:III.5107.B.4] Submit written report: Due within seven calendar days of learning of any such discharge or equipment bypass as referred to in LAC 33:III.5107.B.1 through 3. Submit report to the Office of Environmental Compliance by certified mail. Include the information specified in LAC 33:III.5107.B.4.a through viii.
- 302 [LAC 33:III.5107.B.5] Report all discharges to the atmosphere of a toxic air pollutant from a safety relief device, a line or vessel rupture, a sudden equipment failure, or a bypass of an emission control device, regardless of quantity, in the annual emissions report and where otherwise specified. Include the identity of the source, the date and time of the discharge, and the approximate total loss during the discharge.
- 303 [LAC 33:III.5109.B.3] Achieve compliance with ambient air standards unless it can be demonstrated to the satisfaction of DEQ that compliance with an ambient air standard would be economically infeasible; that emissions could not reasonably be expected to pose a threat to public health or the environment; and that emissions would be controlled to a level that is Maximum Achievable Control Technology.
- 304 [LAC 33:III.5109.B] Determine the status of compliance, beyond the property line, with applicable ambient air standards listed in LAC 33:III.5112.Table 51.2.

**SPECIFIC REQUIREMENTS**

AI ID: 1136 - Shell Chemical Co - Geismar Plant  
 Activity Number: PER20060014  
 Permit Number: 2151-V3  
 Air - Title V Regular Permit Renewal

**UNF0002 Alcohol & OFP Units**

- 305 [LAC 33:III.5109.C]
- Develop a standard operating procedure (SOP) within 120 days after achieving or demonstrating compliance with the standards specified in LAC 33:III.Chapter 51. Detail in the SOP all operating procedures or parameters established to ensure that compliance with the applicable standards is maintained and address operating procedures for any monitoring system in place, specifying procedures to ensure compliance with LAC 33:III.5113.C.5. Make a written copy of the SOP available on site or at an alternate approved location for inspection by DEQ. Provide a copy of the SOP within 30 days upon request by the department.
- Obtain a Louisiana Air Permit in accordance with LAC 33:III.5111.B and C and in accordance with LAC 33:III.1701, before commencement of the construction of any new source.
- Obtain a permit modification in accordance with LAC 33:III.5111.B and C before commencement of any modification not specified in a compliance plan submitted under LAC 33:III.5109.D, if the modification will result in an increase in emissions of any toxic air pollutant or will create a new point source.
- Do not commence construction or modification of any major source without first obtaining written authorization from DEQ, as specified.
- Ensure that all testing done to determine the emission of toxic air pollutants, upon request by the department, is conducted by qualified personnel.
- Provide necessary sampling and testing facilities, exclusive of instruments and sensing devices, as needed to properly determine the emission of toxic air pollutants, upon request of the department.
- Provide emission testing facilities as specified in LAC 33:III.5113.B.4. a through e.
- Analyze samples and determine emissions within 30 days after each emission test has been completed.
- Submit certified letter: Due to the Office of Environmental Assessment, Air Quality Assessment Division, before the close of business on the 45th day following the completion of the emission test. Report the determinations of the emission test.
- Equipment/operational data recordkeeping by electronic or hard copy upon each occurrence of emissions testing. Retain records of emission test results and other data needed to determine emissions. Retained records at the source, or at an alternate location approved by DEQ for a minimum of two years, and make available upon request for inspection by DEQ.
- Submit notification of emission test to allow DEQ the opportunity to have an observer present during the test.
- Maintain and operate each monitoring system in a manner consistent with good air pollution control practices for minimizing emissions. Repair or adjust any breakdown or malfunction of the monitoring system as soon as practicable after its occurrence.
- Conduct performance evaluation of the monitoring system when required at any other time requested by DEQ.
- Submit notification in writing: Due to the Office of Environmental Assessment, Environmental Technology Division at least 30 days before a performance evaluation of the monitoring system is to begin.
- Submit performance evaluation report: Due to the Office of Environmental Assessment, Air Quality Assessment Division, within 60 days of the monitoring system performance evaluation.
- 306 [LAC 33:III.5111.A.1]
- 307 [LAC 33:III.5111.A.2.a]
- 308 [LAC 33:III.5111.A]
- 309 [LAC 33:III.5113.B.1]
- 310 [LAC 33:III.5113.B.3]
- 311 [LAC 33:III.5113.B.4]
- 312 [LAC 33:III.5113.B.5]
- 313 [LAC 33:III.5113.B.5]
- 314 [LAC 33:III.5113.B.6]
- 315 [LAC 33:III.5113.B.7]
- 316 [LAC 33:III.5113.C.1]
- 317 [LAC 33:III.5113.C.2]
- 318 [LAC 33:III.5113.C.2]
- 319 [LAC 33:III.5113.C.2]

**SPECIFIC REQUIREMENTS**

**AI ID: 1136 - Shell Chemical Co - Geismar Plant**  
**Activity Number: PER20060014**  
**Permit Number: 2151-V3**  
**Air - Title V Regular Permit Renewal**

**UNF0002 Alcohol & OFP Units**

- 320 [LAC 33:III.5113.C.3] Install a monitoring system on each effluent or on the combined effluent, when monitoring is required and the effluents from a single source, or from two or more sources subject to the same emission standards, are combined before being released to the atmosphere. If two or more sources are not subject to the same emission standards, install a separate monitoring system on each effluent, unless otherwise specified. If the applicable standard is a mass emission standard and the effluent from one source is released to the atmosphere through more than one point, install a monitoring system at each emission point unless DEQ approves the installation of fewer systems.
- 321 [LAC 33:III.5113.C.5.a] Evaluate the performance of continuous monitoring systems, upon request by DEQ, in accordance with the requirements and procedures contained in the applicable performance specification of 40 CFR Part 60, appendix B.
- 322 [LAC 33:III.5113.C.5.a] Submit report: Due to DEQ within 60 days of the performance evaluation of the CMS, if requested. Furnish DEQ with two or more copies of a written report of the test results within 60 days.
- 323 [LAC 33:III.5113.C.5.d] Install all continuous monitoring systems or monitoring devices to make representative measurements under variable process or operating parameters, if required to install a CMS.
- 324 [LAC 33:III.5113.C.5.e] Collect and reduce all data as specified in LAC 33:III.5113.C.5.e.i and ii, if required to install a CMS.
- 325 [LAC 33:III.5113.C.5] Submit plan: Due to the Office of Environmental Assessment, Air Quality Assessment Division, within 90 days after DEQ requests either the initial plan or an updated plan, if required by DEQ to install a continuous monitoring system. Submit for approval a plan describing the affected sources and the methods for ensuring compliance with the continuous monitoring system.
- 326 [LAC 33:III.5113.C.7] Maintain records of monitoring data, monitoring system calibration checks, and the occurrence and duration of any period during which the monitoring system is malfunctioning or inoperative. Maintain these records at the source, or at an alternative location approved by DEQ, for a minimum of three years and make available, upon request, for inspection by DEQ.
- 327 [LAC 33:III.5609.A.1.b] Activate the preplanned abatement strategy listed in LAC 33:III.5611.Table 5 when the administrative authority declares an Air Pollution Alert.
- 328 [LAC 33:III.5609.A.2.b] Activate the preplanned strategy listed in LAC 33:III.5611.Table 6 when the administrative authority declares an Air Pollution Warning.
- 329 [LAC 33:III.5609.A.3.b] Activate the preplanned abatement strategy listed in LAC 33:III.5611.Table 7 when the administrative authority declares an Air Pollution Emergency.
- 330 [LAC 33:III.5609.A] Prepare standby plans for the reduction of emissions during periods of Air Pollution Alert, Air Pollution Warning and Air Pollution Emergency.
- 331 [LAC 33:III.5611.A] Design standby plans to reduce or eliminate emissions in accordance with the objectives as set forth in LAC 33:III.5611.Tables 5, 6, and 7.
- 332 [LAC 33:III.5611.B] Submit standby plan for the reduction or elimination of emissions during an Air Pollution Alert, Air Pollution Warning, or Air Pollution Emergency: Due within 30 days after requested by the administrative authority.
- 333 [LAC 33:III.5901.A] During an Air Pollution Alert, Air Pollution Warning or Air Pollution Emergency, make the standby plan available on the premises to any person authorized by the department to enforce these regulations.
- 334 [LAC 33:III.5907] Comply with the provisions in 40 CFR 68, except as specified in LAC 33:III.5901.
- 335 [LAC 33:III.5911.A] Identify hazards that may result from accidental releases of the substances listed in 40 CFR 68.130, Table 59.0 of LAC 33:III.5907, or Table 59.1 of LAC 33:III.5913 using appropriate hazard assessment techniques, design and maintain a safe facility, and minimize the off-site consequences of accidental releases of such substances that do occur.
- Submit registration: Due January 31, 1998, or within 60 days after the source becomes subject to LAC 33:III.Chapter 59, whichever is later. Include the information listed in LAC 33:III.5911.B, and submit to the Department of Environmental Quality, Office of Environmental Compliance, Emergency and Radiological Services Division.

**SPECIFIC REQUIREMENTS**

AI ID: 1136 - Shell Chemical Co - Geismar Plant  
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 Permit Number: 2151-V3  
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**UNF0002 Alcohol & OFP Units**

- 336 [LAC 33:III.5911.C] Submit amended registration: Due to the Department of Environmental Quality, Office of Environmental Compliance, Emergency and Radiological Services Division, within 60 days after the information in the submitted registration is no longer accurate.
- Install air pollution control facilities whenever practically, economically, and technologically feasible. When facilities have been installed on a property, use them and diligently maintain them in proper working order whenever any emissions are being made which can be controlled by the facilities, even though the ambient air quality standards in affected areas are not exceeded.
- Provide necessary sampling ports in stacks or ducts and such other safe and proper sampling and testing facilities, exclusive of instruments and sensing devices as may be necessary for proper determination of emission limits.
- Where, upon written application of the responsible person or persons, the administrative authority finds that by reason of exceptional circumstances strict conformity with any provisions of these regulations would cause undue hardship, would be unreasonable, impractical or not feasible under the circumstances, the administrative authority may permit a variance from these regulations.
- No variance may permit or authorize the maintenance of a nuisance, or a danger to public health or safety.
- Submit Emission Inventory (EI)/Annual Emissions Statement: Due annually, by the 31st of March for the period January 1 to December 31 of the previous year unless otherwise directed. Submit emission inventory data in the format specified by the Office of Environmental Assessment, Air Quality Assessment Division. Include all data applicable to the emissions source(s), as specified in LAC 33:III.919.A-D.
- Report the unauthorized discharge of any air pollutant into the atmosphere in accordance with LAC 33:1 Chapter 39, Notification Regulations and Procedures for Unauthorized Discharges. Submit written reports to the department pursuant to LAC 33:1.3925. Submit timely and appropriate follow-up reports detailing methods and procedures to be used to prevent similar atmospheric releases.
- No person or group of persons shall allow particulate matter or gases to become airborne in amounts which cause the ambient air quality standards to be exceeded.